Oil, Paint and Drug Reporter.

EMBRACING THE
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WILLIAM O. ALLISON, Publisher.

PUBLISHED EVERY WEDNESDAY at 73 William street, New York.

SUBSCRIPTION RATE.

For U. S. & Canada ..... $6.00.
" " if paid in advance $4.00.
To all *Foreign Countries* (including postage)..... $8.00.

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WEDNESDAY, APRIL 8, 1891.

LEADING TOPICS THIS WEEK.

Consumption of German potash salts.
The nitrate situation.
A better outlook for window glass.
The statistical position of lard.
The barytes crusade.
Liverpool chemical trade gossip.
A paint failure in Philadelphia
Potash and its derivatives in France.
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Advantages of using potash salts or kainit.
Coal tar and aniline dyes.
Bauxite in Kansas.
Recent Treasury decisions.

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WEEKLY REVIEW.

The money market has been easy during the week under review. Money on call ranged from 1½ to 2, the average for the week being about 2½ and 3 was the closing figure. Time loans are quoted at 4½ per cent. for sixty to ninety days and 5 per cent. for four to six months.

The supply of commercial paper is limited and the demand is light. We quote sixty to ninety days indorsed bills receivable at 5@5½ per cent. first-class four months commission house names at 5½@6% and good single names (jobbers having four to six months to run,) at 6@7c. Following are the rates of exchange on New York: Savannah, buying par; selling par to ¼ premium; Charleston, buying par; selling ⅛ premium; New Orleans commercial, 40c p[remium] $1,000 premium bank, $1 per $1,000 prem[ium] St. Louis, 40c per $1,000 premium; Chicago, 25c per $1,000 discount. Sterling exchange closes dull but firm.

Sterling 60 days, nominal	4 86½@4 87
sight, nominal	4 89 @4 89½
60 days, actual	4 86 @4 86¼
sight, actual	4 88¼@4 88⅜
Cable transfers	4 89 @4 89¼
Commercial, 60 days	4 85 @4 85¼
Paris cable transfers	5 15 @5 14⅝
60 days	5 15⅛@5 17⅛
sight	5 15⅝@5 15
com., 60 days	5 20 @5 19⅝
com., sight	5 17½@5 16⅝
Antwerp, 60 days	5 20⅝@5 20
Brussels, bankers' sight	5 19⅝@5 18¾
Swiss, 60 days	5 16¾@5 16¼
sight	5 15⅝@5 15
Reich marks (4) 60 days	95⅝@ 95⅛
(4) sight	95¾@ 96
(4) nom., 60 days	95 @ 95⅛
(4) com., sight	95⅛@ 95⅝
Ilders, 60 days	40¼@40 5-16
sight	40⅜@40 9-16
com., 60 days	40 1-16@40⅜
com., sight	40 5-16@ 40⅝
Copenhagen, Stockholm and Christiana, Kroners, 60 days	26 13-16@26⅞
sight	27 1-16@27⅛

THE NITRATE SITUATION.

According to the press despatches from Chili, the insurgents, who are in control of the nitrate, ports are obtaining revenue to carry on their operations by levying tribute on the nitrate of soda producers, in return for the privilege of allowing them to ship the chemical to foreign countries. If this were so it should be shown by increased offerings of stock to arrive, and consequently an easier market for future deliveries. The fact is, however, that the market for futures as well as for spot goods remains almost if not quite as firm as it has been for a month past and until it is quite evident that either the insurgents or government party has gained a decisive advantage there is likely to be no decided change in the nitrate situation.

The spot stock of nitrate is small and with the exception of a few thousand bags belongs to consumers. The goods on vessels recently arrived have all been discharged and the bulk of this stock has gone into consuming channels. The comparatively small quantity put into store was also for consumers account. In discussing the situation recently we said that if unless there was an early change in the situation in the primary market we would probably be compelled to draw upon Europe for supplies. While the necessity for such a course has not yet occurred, we notice that there have been sent here from London about 4,800 bags, evidently on speculation. The first arrival, 2,000 bags, went immediately into consumption and the balance, which was received in two shipments, has been stored to await a further appreciation of market values, as present prices are not high enough to satisfy the holders. There is a prospect, and even a strong probability, that further shipments to the United States will be made from Europe, for while stocks there are not excessive this seems to be the better market of the two at present.

With regard to the situation in the primary market and the prospects of the renewal of direct supplies, little or nothing can be stated. The vessels that got away in January before the ports were completely blockaded, are due here the latter part of April or the beginning of May. For those deliveries some offerings are now being made at comparatively low prices, as the January shipments were quite large. After January 20th but one vessel cleared from a nitrate port in February and two got away in March, and it is unnecessary to state that what they bring will be sufficient to supply only a small part of the demand. Regarding the newspaper report that the insurgents are obtaining funds by collecting the export duty on nitrate shipments, we are informed that this is highly improbable for the reason that shippers are afraid to pay them the duty because in the event that if the Government is successful in putting down the insurrection it would have to be paid a second time, making the total expense to the shippers about a cent and a quarter per pound. This in itself would be sufficient in such unsettled times to prevent shipments but another fact operating to the same end, which we have on most reliable authority, is that the railroads from the nitrate beds to the coast have been partially destroyed, and as the laborers who might repair them are scattered, their reconstruction is out of the question at present.

Were the Chilian troubles to cease at once, it is held, and apparently with reason, that several months must elapse before the regular course of commercial enterprise in that country could be resumed. As from the most reliable information at hand, there is not enough nitrate in sight to last until July 1, taking last year's consumption as a criterion (and so far the demand has considerably exceeded that of last year), the prospects certainly point to a continuance of the present rates, and a further advance in prices under the circumstances would occasion no great surprise.

CONSUMPTION OF GERMAN POTASH SALTS.

The increasing consumption of artificial fertilizers in this country, already attained to enormous proportions, brings into commercial prominence the various chemical substances, natural or compound, that enter into their composition. Among these the products of the great German potash mines rank high and it is interesting to note how the trade in these commodities is affected by the constantly growing demand for something to stimulate the soil to renewed productiveness, particularly from those regions where the specially exhaustive nature of the crops grown, renders imperatively necessary the repeated and continuous application of such stimulating agencies. The subject is particularly interesting at this time for the reason that river navigation having again opened in Germany, the movement of these products will be on a much larger scale than was possible during the winter months, and for the additional reason that the season of largest consumption is now at hand.

Among the products of the great German carnallite beds, muriate of potash probably ranks first in importance as a valuable and indispensable ingredient of chemical fertilizers, although, by some, kainit is accorded as great if not a greater degree of value for similar purposes. The fact that American manufacturers, at least, give to muriate the preference is shown by the steady increase in the importations of the salt during the past ten years. Below we give a carefully compiled table showing the quantity received here for each of the years named:

Years.	Tons.
1881	14 445
1882	18,183
1883	17,819
1884	18,271
1885	21,196
1886	21,765
1887	17.855
1888	27,422
1889	28.745
1890	29,780

Importers inform us that this year the consumption promises to exceed that of any former season, the consuming trade having taken since January 1st, considerably more than during the corresponding period last year.

Concerning kainit, the indications also point to an enlarged consumption in 1891, although the statistics for some years past show a steady shrinkage in the requirements of users. The following table is believed to be an accurate statement of the annual importations for the past decade:

Years.	Tons.
1881	89,111
1882	54,623
1883	102,153
1884	110,928
1885	87,635
1886	98,560
1887	49,399
1888	89,451
1889	74,221
1890	73,128

The sales of kainit for last season, which includes the first two or three months of the current year, were unexpectedly large, the increase in fact having been so great as to absorb all of last year's importations at the various American ports. The enlarged demand comes particularly from the South where the heavy cotton crop has given planters the means and the incentive to be more liberal in their purchases of fertilizers. It is believed by those in a position to know that the consumption of kainit this year will be larger than heretofore, and this belief is encouraged by the fact that the producers have reduced quotations about one dollar per ton for the express purpose of increasing sales. While in some seasons the consumption of kainit in the United States has, it is stated, reached one hundred thousand tons, the demand of late years, especially from the northern manufacturers, have greatly decreased owing to the comparatively high cost of the salt. The reduction in price, which applies to April and subsequent shipments, was made with the particular object of reawakening the interest of American consumers in the chemical.

APR 9 1891

A BETTER OUTLOOK FOR WINDOW GLASS.

We briefly referred in our last issue to to the fact that one of the largest manufacturers of window glass in the country had concluded to advance his quotations about twenty per cent and that in all probability other influential producers would follow his example, and thus the war of rates would come to an early end. This particular manufacturer was the first to make a cut, and a deep cut, in prices, because, as some people were unkind enough to say, his pet scheme of a gigantic consolidation of window glass interests were frustrated by the opposition to the plan of two or three large producers further West. Our first information was to the effect that he intended to restore prices to a profitable basis without co-operation of other manufacturers, but later reports go to show that his action was largely if not entirely influenced by the possibility that the apparently chimerical scheme of consolidation of manufacturing interests had at last become a possibility and that, too, through the chastening effects of three months' unprofitable business. It is probable that the possibiliy of such a consolidation might have been longer delayed had not the manufacturers, as a whole, discovered in recent conferences that the stock of glass remaining in their hands was extremely small. That fact, together with the rapidly diminishing supply of natural gas, to which we have before referred, as well as the more important fact that the end of the fire is only a little over two months away, have been potent factors in eliminating differences of opinion that peevented the manufacturers from coming together and putting prices up to profitable figures. Another deterring cause has been removed by the appointment of Mr. Charles Foster to the Treasury portfolio in the President's cabinet. Mr. Foster controls large glass manufacturing interests and at the same time is prominently identified with politics. He was a candidate for Congress when the subject of a consolidation of glass interests was first mooted, and the public outcry against Trusts made him at once an enemy of the scheme because to be connected with such a movement at the time might have ruined his chances of political preferment. As he is now placed in a position where condemnation of commercial combinations by the public, under mistaken impressions or otherwise, is likely to do him and his political aspirations no damage, his passive co-operation, at least, in the scheme of making window glass manufacturing once more a fairly profitable business entherprise, may be expected.

Whatever may be the result of the actual or presumed efforts of the manufacturers to revive the plan to consolidate their interests—and it should be stated that the scheme contemplates only the control of the sales department—it can hardly be felt in full force by consumers for some time to come. Jobbers everywhere are liberally supplied with low priced stock, and although they are no doubt willing and anxious to take advantage of any

improvement in manufacturers' quotations, competition among them will tend to keep prices to consumers comparatively low, until the jobbers' stocks are materially reduced.

THE STATISTICAL POSITION OF LARD.

In view of the present speculative movement in lard, it might be interesting to know what ground, if any, there is for the strong feeling apparent in the market. By referring to the prices obtained for lard in the last nine or ten years, the present figures are extremely low. In 1880 the lowest monthly average price was $6 65 per hundred pounds, this was followed the next year by a monthly average of $8 85, while in 1882 the average was $10 50. This last proved to be the highest point reached and from 1882 to the present time there has been a steady decline, each year with one or two exceptions scoring a lower average than its predecesor. That the product is now at its lowest market value should certainly be good grounds on which to base a movement such as is shown in the market at the present time. On March 1st, 1882 there was held in Chicago 145,000 tierces, in New York 73,400 and in Europe 129,800 tierces, making a total in this country of 218,400 and a grand total of 348,200 tierces. During that year the monthly average was, as above noted, $10 50. These figures seem high when taken in comparison with the prices prevailing March 1st, of the present year when the stock in Chicago was 142,500 tierces, in New York 74,800 and in Europe 271,000 tierces, and the prices $6 02½@6 05 per hundred. It will be noticed that the stock in this country was about the same as in 1882 though the stock in Europe is over twice as large as in that year. This curious condition of things taken in connection with the decline in prices during the intervening years when the stocks have been much lower, would seem to indicate that the price some years ago was not controlled so much by the regular supply and demand as by the temper of the speculative demand, and that for the past few years lard having lost much of its attractiveness as a speculative commodity is now bought and sold more on its intrinsic value. Nevertheless the prevailing prices seem very low and probably all concerned in the in the manufacture of the product would be glad to see a higher range of values.

TRADE ITEMS.

Beeswax is now said to be adulterated with rosin.

The manufacture of quinine, recently commenced at Madras, is so far said to be prosperous.

C. N. McLaughlin, president of the Diamond Huller and Oil Company, of Memphis, Tenn., was in this city last week.

The Buckeye Paint and Varnish Company of Toledo, Ohio, are making extensive improvements in their present works.

It is said that equal parts red and white lead worked into a stiff paste with boiling linseed oil will make a good waterproof cement.

Mr. Geo. H. Williams has been confined to his home since Thursday last with a severe attack of the grip; he is convalescent and will probably be able to attend to business soon.

Mr. W. F. Armstrong, manager of the New York Shellac Company, has been confined to his home for several days by an attack of la grippe, but expects soon to be back at his desk.

Mr. Thomas Leeming, of Philadelphia, is expected to return in a few days from Europe, where he has been making an extended tour going as far as Palestine, Constantinople and Egypt.

Mr. Frederick Paulsen, the well-known importer, who has been confined to his home for some days by a severe attack of the grip, is again able, we are glad to hear, to give his attention to business.

Messrs. A. K. Gardiner & Bros., agents for the Brighton glue, have moved from 1¼ Cedar street to 284 Pearl street, where they have larger and more commodious quarters for their rapidly increasing business.

We are informed by the Davis Animal Oil Company of Boston that they have closed up their business.

Among those who make a specialty of machinery adapted for soap and candle making is the well-known house of A. W. Houchin, of Brooklyn, N. Y., whose advertisement will be found upon another page of this issue.

The *Chemiker Zeitung* tells us that no where does quackery flourish more than in England where the tax on "patent medicine" brings in yearly £300,000, and where the public consume yearly such products to the extent of £1,500,000.

During the year 1890 there was exported from Guayaqil, Ecuador, to the United States 2,202,438 pounds of cocoa, valued at $285,240, 3,438 pounds of cundurango, valued at $716 and 807 pounds of chinchona bark, valued at $124.

The staple produce of Ecuador being cocoa, an exceptionally good crop of this bean always ensures a prosperous year. Such has been especially the case in 1890, which is notable for the largest cocoa harvest ever gathered in the country.

The Excelsior Manufacturing Company, Market street, Pittsburgh, Mr. John C. Dilworth, proprietor, manufacturers of barrel caps, bung pans, floor pans and frames, galvanized iron tanks, pumps, etc., have gone out of business.

A Philadelphia syndicate has purchased the old Buckshotem mill property and adjoining sand land in Cumberland county, and will at once begin the working of a glass sand wash. The deed of the property is in the name of John H. C. Whitney, of Philadelphia.

The first spring meeting of the Paint, Oil and Varnish Club, of this city, will be held on Thursday evening next at the rooms of the Down Town Club in Pine street. A large attendance is expected as an interesting business and entertainment programme has been prepared.

Mr. G. A. Young the paint machinery manufacturer of Brooklyn, who has been able to give only partial attention to business for the past three months owing to a serious illness has, we are glad to know, recovered his health and can give his whole time to his commercial interests.

Special agents of the United States Treasury have for some time been making thorough investigation of glue and gelatin imports with a view to finding out as to what extent, if any, under-valuations existed. The results of this investigation will prove of considerable interest to the whole trade.

The large and commodious store now occupied by Messrs. Parke, Davis & Co., Maiden Lane, New York city, extending through to Liberty street, can be leased on favorable terms. It is a splendid location and will be found very convenient, prominent and central for either the drug, paint or oil trades.

The National Lead and Oil Company, of this city, which controls five of the oldest and best known brands of white lead, is also a large producer of a superior grade of orange mineral that is especially adapted for the manufacture of vermilion. The advertisement of the company will be found on another page.

A good varnish, one that will fulfil all the representations made concerning it, will always find a ready and increasing sale. Such an article is produced by Mr. Wm. D. Chase, of 173 N. Ninth street, Brooklyn, and consumers will consult their interests by calling upon or communicating with him before placing their orders elsewhere.

The Fiske Bros. Grease Company, whose offices are at 59 and 61 Water street, this city, are manufacturers of a superior grade of lubricating grease for use on railroad, mill and mining machinery, etc.; they do both a domestic and export trade, and the steady increase in their business is the best guarantee of the uniform and excellent quality of their product.

Mr. J. Morgan Wing, of the chemical firm of Wing & Evans this city, returned home on Wednesday last from an extended trip in the South, where he had gone some months ago for the benefit of his health. His many friends both here and abroad will be pleased to learn that the trip was a success, as he returns in good health, and is once more actively engaged in business.

Gum damar from New Caledonia, has been known in commercial circles for some time and the Kew authorities have had it under their notice, Prof. H. N. Mosely, who obtained it from the east side of New Caledonia, having given them a specimen. The botany of the tree yielding the resin is doubtful, but in all probability it is dammara lanceolata, Pancher and Sebert, a species which Lindley does not mention. The resin is used by the natives as a varnish for pottery.

The British consul at Samoa reports that a very large number of the cocoa-nut trees on the German plantations are only coming into full bearing, and provided there is no hurricane during the wet season of 1891 (January to April,) the crop of 1891 should exceed that of 1890 and the export of copra be increased. The unsettled state of the country politically during the past year has tended greatly to check the native manufacturer of copra. A stable Government having now been inaugurated, the output of copra by the natives in 1891 should be considerably increased.

The increasing consumption of plate glass in the United States has often been commented upon in these columns, and the dealers who make a specialty of this class of merchandise often find it difficult to promptly fill orders. With their large facilities and direct and extensive connections, Messrs. Sutphen & Meyer, of 9 to 14 Desbrosses street, this city, are in a position to give buyers the utmost satisfaction on the shortest notice, and we commend them to the attention of our readers.

United States Consul Viosca, stationed at La Paz, Lower California says: "Lower California has long been noted for the variety of dyes which it produces, such as archil weed, etc., but the torote tree bark, recently discovered, has come into great demand, and several large shiploads have been exported to Europe. As yet there seems to be but little demand for the article in the United States, although it is cheaper than archil and other dyes, producing in its natural state a dark red color, which is quite indelible. It is now collected and sold in this market at the price of $1 to $1 50 per 100 pounds, and the supply seems to be enormous."

It has been found that for timber in mines in marine work and for rough structures, creosote is the best preservative of wood. It is not, however, adapted for fine carpentery work, since the wood cannot be easily worked, nor will it take paint and varnish. Naphthaline, a coal-tar product, has been tried for general carpentery work in England, and, it is claimed, with success. The process consists of placing in a tank of melted naphthaline the wood to be treated, the time of the bath being from two to twelve hours, according to the size of the piece of wood. The naphthaline acts by displacing the sap, owing to the destruction of the albuminoids in the wood. The timber is thus made entirely antiseptic, so that it is said that neither damp nor insects will attack it.

On another page will be found the advertisement of the Coraopolis Oil Works, W. L. Mellon, proprietor, Pittsburg, Pa., producers, shippers and refiners of Pennsylvania petroleum, with an output of over 2,000 barrels crude stock, per day. They have recently bought the Excelsior Oil Works at Freedom, Pa., which they propose to rebuild and enlarge to increase their capacity for the manufacture of water-white burning oils, cold test oils and stocks paraffine wax, etc. We have known Mr. Mellon for years as among Pittsburg's most wealthy and enterprising business men and as a large producer and manufacturer of petroleum oils. He can without doubt offer great advantages to purchasers of petroleum and its product.

PETROLEUM NOTES.

The Standard Oil Company entered suit in Pittsburg on Friday last against the Columbia Iron and Steel Company to recover $949.61 on a bill of exchange.

One of the stills in the Cornplanter Refinery at Warren, Pa., exploded on April 1st, seriously, if not fatally, injuring George Taylor. His head is badly cut and his face and arms terribly burned.

At the annual meeting of the Standard Oil Trust stockholders, in this city on Wednesday last, John D. and William Rockefellar and H. H. Rogers were elected trustees to serve for the next three years.

A report from Goshen, Ind., states that Joseph Paulus while sinking a drive well on Saturday last at that place, struck a good and steady flow of petroleum. This is the first discovery of the kind in that part of the State.

It is reported that Messrs. Crew, Levick & Co. have consummated a combination of petroleum producing interests in western Pennsylvania. The scheme included the purchase of 450 wells in what is known as the Tiona oil district, and a refinery at Thurlow Station, Delaware county.

The warehouse of the Waverly Oil Works at Fifty-second and Butler streets, Pittsburg, was totally destroyed by fire on Thursday evening last. Beside the warehouse six cars of crude oil, three of benzine, and about 415 barrels of refined oil were destroyed. The loss amounts to about $115,000. The proprietors inform us that they are now in a position to fill orders.

Pittsburg dispatches of the 3d inst. intimate that an early dissolution of the oil exchange there is probable. For several months past there have been no dealings in petroleum and the brokers have about decided to quit business. A step in that direction was taken last week, when a resolution authorizing the directors to withdraw from the conference of exchanges was presented, but afterward laid on the table till the next meeting. A later dispatch states that it was formally decided by the trustees, on Monday, to withdraw from the conference.

The latest addition to the list of railroads that use petroleum for fuel on locomotives is the Great Western Railroad of the Argentine Republic. The petroleum found in the Republic is too heavy an oil to be refined advantageously for illuminating purposes, and it can be obtained for fuel purposes at cheap rates. The company can procure the oil at a cost equivalent to $3 per ton for coal. As the English coal formerly used on the road cost from $15 to $25 per ton it will be seen that the economy in the use of the oil will be great.

The Wheeling Development Company, composed of local manufacturers who are anxious to discover natural gas in the vicinity of Wheeling, W. Va., have drilled a well 4,108 feet deep on Boggs Run, a mile out of town. The drilling had been abandoned, but it will be resumed and the hole punched on down till a depth of 5,280 feet, or one mile, is reached. This will be the deepest well in the United States, and will pass through the cornliferous rock under which all oil and gas found in Canada is located. The United States Geological Survey has decided to assist in bearing the expense for the sake of being permitted to procure samples of the strata passed through.

CORRESPONDENCE.

This column is always open for the expression of public opinion, but the REPORTER assumes no responsibility for the views expressed by any correspondent.

The Barytes Crusade.

Editor OIL, PAINT AND DRUG REPORTER:

As you have so much space for this affray we hope you will concede me to a small portion in which to remind your smiling readers that it is not a personal slugging match between any two "Apostles."

Last summer the "Apostles of Purity" began it by crucifying barytes, and the only relevant issue—the only one the paint people are interested in—is whether artificially prepared barytes, [the best manufactured] is a true pigment, beneficial to paint, or whether all preparations of the ores barium are if equally adulterant and injurious to paint and colors

The Buck Lead challenge to white lead (which, by the way, has not yet been accepted) also the veteran expert John W. Masury, also the other veteran John Lucas, also the oldest manufacturers of blanc fixe and barytes in the United States, agree in the affirmative. And the only common sense rejoinder to such agreement is to prove the contrary. By all means let the "Apostles of Purity" screw their courage up to the testing point. Let us have a public test.

As the poet sings:

"For his pretense can not be much,
And his deserts are small,
Who dares not put it to the touch,
And win or lose it all."

Artificial barytes is ready for the fray, and the "Apostles" who did not know that much in 1890 must toe the scratch, or take their medicine.

J. M. PAGE.

MISCELLANEOUS.

INDUSTRIAL SECURITIES.

Wall street seems to have awakened the past week from a long period of depression. While business there has not been active, yet there is so much more doing that the brokers are hopeful of better times. The industrial stocks have met with more than the average favor, and many are of the opinion that they will take a leading place in speculation in the near future. There has not been any favorable news regarding them that we have not given weeks ago, and it is simply that people with money are beginning to buy them. Cotton oils have touched the highest prices for a long time, but to many the common seems dear as compared with the preferred or the trust receipts. Lead has not risen so much, but holds its advance well. At the Standard Trust meeting a very full and satisfactory statement for the past year was made. Southern cotton oil stock was lately sold at auction in Philadelphia at a very low figure, and was offered in this market privately at 41½ and a bid solicited. It is listed on the Stock Exchange, but has not been quoted for about a year. Linseed stock is seldom dealt in, and in Starch we never hear of a trade.

The following are the closing quotations:

American Cotton Oil Tr. Rcts.....	24¼@ 24¾
American Cotton Oil Co	24¼@ 24¾
American Cotton Oil Co. Pfd.....	47¾@ 48¼
Distillers & Cattle Feeders Co.....	41¾@ 42¼
National Lead Trust.....	19 @ 19¼
National Linseed Oil Co.....	40 @ 41¾
National Starch Mfg. Co	— @ 60
National Staren Mfg. Co. 1st Pfd.....	— @110
National Starch Mfg. Co, 2d Pfd.....	— @115
Standard Oil Trust.....	164 @165

Tarrant & Company Satisfied.

Reports from Tarrant & Co. indicate that they are fully satisfied with the status of the Hoff's Malt Extract war up to date. They feel as if court decisions and other important matters had been largely in their favor, and that they to a considerable extent have the support and confidence of the trade in their efforts to maintain their rights and privileges in the premises. Full particulars of this controversy have been printed in our columns several times lately and those of the trade who are not thoroughly informed will do well to look the matter up again and see just exactly how things stand up to the present time.

A Paint Failure in Philadelphia.

The Quaker City Paint Works recently failed and has been sold out by the sheriff. It is reported that the original judgment creditor for $5,000 will get about all of the claim, but that a number of small creditors for labor and merchandise will not fare so well, and may not get anything at all. The business was owned and run by Mr. Thomas Bennett who has for many years been connected with the paint business in various capacities. He is making efforts to get matters adjusted, and hopes to be able to continue.

Recent Treasury Decisions.

GROUND GLASS.

In the matter of the protest of the Cole Manufacturing Company, against the decision of the surveyor of customs at Memphis as to the rate and amount of duties chargeable on certain "ground glass" imported per Havre, October 24, 1889, the following opinion was given by General Appraiser Somerville:

The merchandise is invoiced as "window glass" and entered as "50 cases double window glass." The sample before us is glass about one-eighth of an inch thick, smooth and transparent on one side, and ground on the other. The glass in question was classified and assessed, under paragraph 138 of the tariff act of March 3, 1883, as "common window glass" above the dimensions of 24 by 30 inches square' the rate of duty being seven-eighths of a cent per pound. While there is some confusion in the record as to the precise paragraph of the tariff law under which the appellants claim the classification should be made, we think the contention may fairly be assumed to be that the merchandise is "ground glass," and that the rate of duty should be 45 per cent. ad valorem. This would refer the claim to paragraph 143 of the tariff act of 1883, and we shall so consider it. That paragraph levies duty on "porcelain and Bohemian glass, chemical glass ware, painted glassware, stained glass, and all other manufactures of glass, or of which glass shall be the component material of chief value, not specially enumerated or provided for in this act, forty-five per cent. ad valorem." We are satisfied, both from the testimony of experts and from common knowledge, that the merchandise is not "common window glass," as held by the collector, although it is window glass, and it is also known as "ground glass." It has undergone a process of smoothing on one side, but is not "polished" within the meaning of this word as used by glass manufacturers and in the tariff law. The ground side is, of course not polished. Plate glass which has been subjected to the processes of grinding and smoothing on both sides, but is unpolished, is "ground glass" not provided for by that name in the tariff act. In United States vs. Semmer, 41 Fed. Rep., 324 (followed by the Treasury Department in Synopsis 9930), it was classified under paragraph 143 (tariff index act 1883), as a manufacture of glass, or of which glass is the component material of chief value, and was held dutiable at 45 per cent. ad valorem, as provided in said paragraph. It is our judgment that these rulings are correct, and the contention of the appellants is accordingly sustained. The decision of the collector is reversed, and he will reliquidate the entries as required by law.

AGAR-AGAR OR JAPANESE ISINGLASS (1883).

In the matter of the protest of H. Martin, against the decision of the collector of customs at New York as to the rate and amount of duties chargeable on certain prepared seaweed, imported per Russia, September 19, 1890, the following opinion is by General Appraiser Wilkinson:

The article in question is a seaweed designated botanically as agar-agar, and in its present condition known commercially as Japanese isinglass. It was returned by the appraiser as isinglass, and duty was assessed accordingly at 25 per cent., under T. I., 6, act March 3, 1883. The appellant claims that the article is not isinglass, but a preparation of seaweed, and, as such, should be admitted free, or at a duty of 20 per cent ad valorem, as a non-enumerated manufactured article. Agar-agar is not isinglass or gelatine, nor is it substantially similar to them in material or texture. The two last are products of animal tissue, while seaweed is a vegetable substance. Isinglass is chiefly employed in clarifying beer or other liquids, a use to which agar-agar is not adapted. It is difficult in this as in many cases to determine when the crude state ends and the manufactured condition begins. But the article under consideration has gone through the process of washing, drying, bleaching and freezing, and it has been cut into lengths and bound in packages measuring about 12 by 4 by 4 inches. We are therefore of the opinion that it should be considered a manufactured article, but in denying the appeal for free entry we sustain the claim of the appellant that the merchandise is dutiable as a non-enumerated manufactured article.

COPPER IN PYRITES ORE.

In the matter of the protest of E. R. Howard against the decision of the collector of customs at Burlington, Vt., as to the rate and amount of duties chargeable on certain copper in pyrites ore, imported by rail entries for consumption dated January 24 and January 29, 1891, the following is the opinion rendered by Wilkinson, General, Appraiser.

Duty was assessed at one-half cent a pound on copper contained in certain pyrites ore. The importer claims free admission for the ore and the copper contained. That part of paragraph 183, act of October 1, 1890, covering the subject as follows:

Pyrites or sulphuret of iron in its natural state containing not more than three and one-half per cent. copper, seventy-five cents a ton: *Provided*, That ore containing more than two per cent. copper shall pay in addition one-half of one cent per pound for the copper contained therein: *Provided also*, That sulphur ore, as pyrites or sulphuret of iron in its natural state containing in excess of 25 per cent of sulphur, shall be free of duty, except on the copper contained therein as above provided.

The only provision in this paragraph applicable especially to copper is when it constitutes more than 2 per cent. of the ore. Consequently in sulphur ore containing more than 25 per cent. of sulphur and less than 2 per cent. of copper the copper as well as the ore is free. As an assay of the ore in question returns sulphur 37·65, copper 1·73, the claim of the importer is sustained.

Glass Industry of Germany.

From industrial circles we received the following information: In view of the German Austrian tariff negotiations now in progress, it is well to throw light on the glass industry of both countries. If we first look at the Austrian, and especially the Bohemian, glass industry, we find that at the beginning of 1880 it suffered a decline in the extent of its selling district. Until then, for Bohemian articles, England was the chief taker, the United States buying the largest amounts in cheap wares. On account of disquiet of the colonies and the languishing general condition of trade, business fell off so that the north Bohemian factories were much cramped. This severe blow was partially the fault of the manufacturers themselves by their manner of doing business. So soon as a buyer allowed himself to be seen he was completely overflown with offers. Under such circumstances one cannot blame the buyer for choosing the lowest prices. For example, instead of moderately expensive colored glass, the manufacturer took colorless glass, colored it with aniline colors and painted thereon "in the cold" the flowers of the most beautiful sorts. These wares came to America and were placed in store windows. Very quickly the sun took the color out of the exposed side, while the other side retained a part of its original beauty. Under such circumstances the confidence of the transatlantic buyers were lost. They held back in making purchases and tried first to free their stocks from the doubtful articles. Formerly the Bohemian industry had a good reputation, but it was unable to recover from this injury. The McKinley bill was also injurious, as the United States, as chief buyer, has revolted from the cheap Bohemian articles and now prefers the better German, French and English wares. Furthermore, Bohemia has now a hard battle to fight out with its workmen. The formerly very badly paid workmen have formed a union, and this (the entire industry is housework) is now dictating conditions to the manufacturers, which will further cramp the industry. By the German customs tariff of 1885 Bohemia received a blow, to parry which everything imaginable has been tried. For five years petition after petition has been made, and the north Bohemia manufacturers have used every effort to have the customs restrictions between the two Empires removed. Recently, also, at the negotiations in Vienna, the glass industry has demanded customs modifications for Bohemian wares. With us the glass manufacturers have not yet been heard. A modification of the duties on glass would seriously injure the German industry. Our industry is still in a state of developments and already has shown itself capable of producing articles which were formerly imported from Bohemia. But, nevertheless large quantities are still imported into Germany which can very well be manufactured by us and in exactly the same quality. This applies specially to mass articles, as in finer articles Bohemia has lost its lead. For the moment Germany is not in position to cover, *e. g.*, its demand for wineglasses. The importation from France and Belgium is very important, notwithstanding that these wares have very doubtful value. Belgian and France crystal glass, when struck, gives a very good sound, and this helps their sale materially. In use, however, there is a great objection—the glasses break very easily, owing to the cooling method used in their manufacture. In general our glass industry has now good business prospects, but it cannot afford to lose the benefit of protective duty.—*Berlin Borsen Zeitung.*

Chili and its Nitrate Deposits.

When we first saw Iquiqui, little more than a half a year ago, it was one of the most peaceful and prosperous cities of Chili—a seaport second only to Valparaiso in population and commercial importance, in wide contrast to the burned and battered ruin the rebels made of it on their recent raid. As most of my readers are aware it has long been the great shipping point of the world for nitrate of soda—a vast business practically controlled by English capital, and therefore in the eyes of Englishmen Iquiqui is of more consequence than all the rest of Chili put together. By the way, the queer name, when on foreign tongues sounds like the quacking of a duck, is of Aymara Indian origin and should be pronounced E-kee-kee, accented on the middle syllable.

On the 19th and 20th of last month there was hard fighting in the streets of the town, between the rebels and government troops, being attacked by soldiers in the rear and bombarded by the fleet in the bay—both parties struggling to gain possession of the Intendencia; and the doomed city suffered little more from the foe than from the friends who were trying to defend it. Every building in the six principal squares was completely destroyed. The insurgents seized the custom-house, pillaged private residences, and finally set fire to the business quarter and reduced it to ashes. The terrified women and children, who were hidden in the inner rooms of their houses to escape bombs and flying bullets, had the walls burned or pulled down over their heads during the sacking process, and in this way several hundred defenseless creatures perished like rats in a hole.

To-day there is hardly a family in Iquiqui that is not mourning for some of its members. The hospitals are crowded to their utmost capacity, and so are all the churches and houses that remain standing, for everybody in this hour of sorrow is doing all he can to assist his fellow sufferers. A great many women and children, having lost their homes as well as their natural protectors, are temporarily sheltered on board ships in the harbor, being still too frightened to go ashore. Comparatively few of the foreign residents were killed, though the loss of property among them (they being generally the wealthiest people in the place) was much greater than among the native citizens.

REVENUE FROM THE NITRATE INDUSTRY.

For more than a year past the nitrate people have been doing little profitable business, principally on account of the government troubles and consequent strikes among the laborers, and also because the English market is overstocked with the commodity, and therefore its price is correspondingly low. From this nitrate industry alone the Chilian government has been collecting a revenue of about $20,000,000 per annum in export duties. Some eight months ago, when workmen were striking all over the country, on account of hard times, occasioned by the persistent refusal of Congress to pass the appropriation bills, these Iquiqui laborers made a great deal of trouble. They had no particular interest in the questions at issue, and were affected by them only in the consequent lowness of exchange; but the latter phase of the muddle was a serious matter, especially to those foreigners whose families remained in the mother country and could receive no support from the bread winners in Chili.

ALL THE WORKMEN STRIKE.

The workmen had been receiving from $4 to $10 a day in Chilian paper currency (worth about one-third amount in the United States or English gold), and when exchange dropped lower and lower they demanded to be paid in silver instead of in paper, as formerly, which would in reality about double their wages. This the nitrate companys refused to do, because they were making no money themselves and the established rate of payment was exceptionally good—for Chili. Then the laborers "struck" en masse and threatened to burn down the works and warehouses unless their demands were acceded to. There was not a sufficient military or police force at hand to afford the companies any protection, and after a few incendiary blazes the managers, to save their property from further damage, ostensibly gave in to the strikers, meanwhile importuning the president to send troops to their assistance. But the Government was so distracted with its own troubles and the revolts that were springing up all over the country, that aid was not dispatched to Iquivui in time to do much good. The consequence was that several of the largest nitrate companies were compelled to suspend work entirely, to their own ruin and the suffering of hundreds of poor families and the loss of Chili's treasury at a critical time when she can ill afford it.

AN INEXHAUSTIBLE DEPOSIT.

Perhaps the greatest natural curiosity on the southern continent is this inexhaustible deposit of nitrate of soda. Beds of it are strewn along the western coast for 500 miles, and throughout all that distance the physical aspect of the country is the same—everywhere an arid range of hills from four to six thousand feet high, rising abruptly out of the Pacific, backed by a desert pampa (plain) from 50 to 100 miles wide, which gradually ascends to the foot of the snowy Cordilliers. Nowhere else in the world except in this particular pampa are nitrates found in quantities worth mentioning. And here they exist under variable conditions. For example, in that part of the desert known as the Pampa Tamarugal—where all the great English companies have their factories and the British public has millions of pounds sterling invested—the deposit is found only on the seaward edge of the desert on the first slopes of the coast range. In the Noria district they lie in the most depressed portion of the plain, in a kind of basin between the hills, and above Antofogasta they line the sides of a dry river bed.

But everywhere the Pampa presents the same desert type. That above Iquiqui derives its name from the tamarugal bushes with which it is sparsely covered. Further north, above Tarapaca, the bold features of the Cordilliera add some beauty to the landscape, while inside from Autofogasta, in the great desert of Atacania, there is not even a distant mountain to be seen—nothing but sand as far as the eye can reach. There is no cloud on the burnished sky to temper the rays of the vertical sun; the hot air distinctly virbrates, and blue mirage lakes tantalize the thirsty traveler. One can scarcely bear to touch the scorching sand, at 130 degrees, and a light south wind continually raises whirlwinds of dust in every direction. Neither bird, beast or plant of the lowest type can live in these barren wastes, and yet their hidden wealth has led to the creation of several villages, whose every necessary of life is brought from a long distance.

WATER SOLD BY THE DRINK.

A few years ago water sold on the Atacama desert for $20 the arroba, or about $2.50 per gallon, and a drink for a mule cost 15 English shillings. Finally at a place in the desert called Carmen Alto, a sun condensor, with 50,000 square feet of glass, was employed to distil fresh water from that of the sea. This was afterwards wrecked by a whirlwind, but a smaller apparatus on the same principle, is now being worked at Sierra Gordo, and realizes a handsome profit, though the water sells for only 30 cents the arroba. Most of the coast towns and inland factories are now supplied by means of condensed steam, some of the condensers producing no less than twenty-five tons of good water for every ton of coal burned in the boilers. More recent schemes have been started for supplying the coast towns with water, by means of pipes running across the desert from springs at the foot of the mountains. Iquiqui, Taltal, Autofogasto and Mollendo are supplied in this manner, and other similar aqueducts are being constructed

Before Europeans came here this region was almost uninhabited. Two or three hundred Changos Indians, who live by fishing, still prowl along the face of the coast range, but until recently they had no idea there was anything of value in their territory. In the district of Tarapaca and on the Tamarugal pampa the Aymara language is universally spoken and all the places names are in that tongue—such as Pacoha, Jaz Pampa, Puntunchara, &c. In the Autofogasta and Taltal regions, the Indians speak only Quichua, though they lie further from the home of that language. Most of the laborers are Bolivians, from the neighborhood of Cochabamba, where Quichua is universally spoken. These men chew cocoa and entertain all the strange superstitions of their brothers in Bolivia.

ONLY ONE VILLAGE OF IMPORTANCE.

The portion of the pampa in which English-speaking people was most interested, is that lying between Iquiqui and Pisagua—the celebrated "Tamarugal Pampa,"—where lie the Tarapaca beds. The encompassing Sierra Huatacondo have their barren slopes intersected by quebradas (breaks,) or narrow valleys, each of which brings down a small stream of water to be eventually lost in the sandy desert. By the side of each little river, irrigation affords sustenance to a scanty population but there is only one village of importance—that of Tarapaca, in the valley of the same name, which includes the province containing Iquiqui, where a colony of Northern "Nitrate Kings" have accumulated their millions. A high chilly upland, about twenty miles across, separates the outer Sierra of Huatacondo from the higher range of the Cordilliera, and then the Andes slope sharply down to the plateau of Boliva, 12,000 feet above the sea. The crests of the seaward mountains retain no snow during the summer months, but those of of the inner Cordilliera remain white throughout the year.

HOW THE BEDS GROW.

The tamarugal shrubs that grow in places on the Pampa owe their existence to the floods which every few years rush down from the Andes and run almost to the edge of the nitrate grounds. Of course one good overflow or shower bath would ruin all the nitrate, but as the region is entirely rainless, there is no danger of either. The surface of the desert is not sharp sand, but dry earth mixed with a certain proportion of sandy particles, and irrigation would turn every rod of it into a fertile plain. Wherever wells have been sunk, alternate layers of gravel, sand and mud are disclosed, each series of layers representing the sequence of a single flood in former ages, hence it follows that in times long past the Pampa must have been subject to periodical inundations. Water may be found almost anywhere at the depth of from 50 to 150 feet but no place has yet been discovered where the conditions necessary for artesian wells are fulfilled. Strange to say the underground waters of the Pampa do not contain the slightest trace of either nitrate, or soda, or iodine, though they hold a greater proportion of mineral salts the farther westward they run. In the middle of the desert the water contains too much salt to be drinkable; that near the western margin (but not in the niter beds), belongs to the calcareo-magnesian class and is totally unfit for domestic and culinary purposes.

It is a commonly promulgated fiction that the subterranean water of the Tamarugal plain is the overflow from far-away Lake Titicaca that has somehow filtered under the

great Cordilliers. The absurd idea was originated more than three centuries ago by by the celebrated but unscientific historian, Don Cieza de Leon, who wrote, in 1550, his "Chronica del Peru." Titicaca's only outlet is the Rio Desaguadero. At starting the water contains only about one gram of salt to a liter, but before the river has reached the shallow Lake Aullagas it is so salt as to be undrinkable. A short distance farther on the last remnant of the Desaguadero is lost in the muddy salt marsh, called Cienago de Coipasa, and it is impossible to believe that its brackish water can come out fresh on the other side of the mountains.

South of Coquimbo, all the way down to the tip end of the continent, the country is well cultivated or wooded and possesses abundance of water, but the northern deserts are far more valuable because of their mineral wealth. The entire province of Atacama is one vast mine of ores and alkalies—among them being gold, silver, iron, copper, lead, salt, borax, gypsum, cobalt and saltpeter. The amazing number of mines in this desert may be inferred from the fact that in the district of Caracoles alone upwards of 4,000 silver mines have already been surveyed and assessed. The locality was so named—from caracol, a snail shell—because the mountains thereabouts consist mostly of fossiliferous shelly limestone abounding in ammonites. Formerly Bolivian political troubles interfered with the development of Caracoles' resources, and since the territory has belonged to Chili the heavy transit charges across the desert and the high rate of wages demanded by workmen have been obstacles almost insurmountable.

Drugs as Imported.

Under the above caption the *Chemist and Druggist* gives a series of interesting notes as a continuation of an article first published in its "Dairy" for 1891. As these notes contain much information that will be found valuable and interesting by our readers in the drug trade, we reproduce them below:—

CITRONELLA AND LEMON-GRASS OILS.

The introduction of lemon-grass oil into European commerce dates from so recent a period as about sixty years ago, and that of the citronella oil is still more modern. The grasses are principally cultivated in the Western and Southern provinces of Ceylon. In 1864 the exports of these oils reached 622,000 ozs., and in 1888 about 8¼ million ozs. India and the Straits Settlements also furnish a quota. Citronella is usually imported in 21-oz. bottles, of which 36 go to a case; but lately a mode of packing it in 5-lb. tins has gained ground a good deal.

LEMON AND BERGAMOT OILS.

About 150 tons of essence of lemon are said to be manufactured in Messina annually, from 1,000 to 1,500 lemons being required to produce 1 lb. of oil. The output of bergamot in Italy is said to be about 60 tons per annum, and that of orange abont 30 tons. Bergamot and lemon are imported in coppers ranging from 20 lbs. up to 100 lbs. in weight. The prices of both these oils have increased very considerably of late, and a combination of bergamot manufacturers is said to exist in Italy, which has for its object the further enhancement of the price of oil of bergamot. The oil is believed to be an indispensable ingredient in the manufacture of eau de cologne.

LAVENDER OIL.

The principal producer of oil of lavender is France. The oil is usually imported in tins, weighing up to 28 lbs, but it is also sent over in 1lb bottles. French oil of lavender is considerably cheaper than English oil. The cultivation of lavender in the Mitcham district is continually decreasing owing to the enhanced demand for building land. Twenty years ago fully 350 acres were annually placed under this crop: now only perhaps 30 or 40 acres. On the other hand, the cultivation is progressing somewhat in other parts of the country, and has of late years been commenced in one or two counties which were not known as oil producers before. In England the plants are collected in the beginning of August. The average crop per acre is about 800 lbs. of flowers and stalk (the parts which are distilled,) yielding about 10 to 15 lbs. of essential oil. In 1881, frost, and a fungoid disease which has not since appeared, destroyed almost the whole of the crop, and one of the largest distillers is said to have obtained less than one Winchester of oil that year. At one time during that season as much as 16s. per lb. was paid for Mitcham oil. The plant flowers three years in succession, the second year's growth being considered the best. The average yield of chamomile oil is calculated to be 8 lbs., and the pennyroyl about 12 lbs. per acre.

PEPPERMINT OIL.

The world's production of peppermint oil in the year 1888, according to a well-known firm of distillers, was as follows:—

	Kilos.
United States (State of New York)	35,000
" " (State of Michigan)	27,000
England (Mitcham)	5,000
" (Cambridge and Lincolnshire)	1,400
Japan	64,000
Italy	1,300
France	4,600
Germany	400
Total	138,800

Russia and Spain also furnish small quantities.

GUM EUPHORBIUM.

Gum euphorbium is the exudation from a shrub which grows in great abundance in the district of Eutefs, at the foot of the Atlas mountains, especially to the northeast of the city of Morocco. The plant grows wild, and its gum is collected in August and September. the collectors take it to Morocco, where it is brought to the ports of shipment by camels. There is an export duty of 2s. 4d. per cwt. upon this gum in Morocco. The yield of euphorbium is richest in seasons when plentiful rains at the commencement of the season are succeeded by excessive heat. When the article fell into desuetude as a medicinal agent the collection of it in Morocco was almost abandoned until, some ten years ago, a demand sprang up for the gum as a preventive of the fouling of ships' bottoms. It is now regularly met with in our markets and appears in tears of irregular shape, varying in size from a small pea to a length of about 1½ inch, of a dirty grey or yellowish color, and very largely mixed with impurities, such as earth, stones, and the prickly stalks and seedpods of the shrub. As showing the dirty state in which this article is brought to market it may be mentioned that some eight years ago a German drug firm had a consignment of 3,353½ kilos, of a quality rather above the average, sorted for powdering" The process occupied eleven women for six weeks, and the result gave: "large picked crop, 483½ kilos; small picked (for pulv.opt.) 1,317½ kilos; second quality small (for pulv. second.) 437 kilos; sand, stones, and other impurities, 769 kilos; loss in drying and powdering 346½ kilos." Euphorbium is imported in rough serons of 1½ to 2 cwt.

LICORICE.

The Italian licorice is manufactured during the winter months from November, until March The warm season is not favorable for manufacturing, and it is not advisable to ship it during the summer, as it easily becomes cakey and forms one mass in the boxes. The dried root yields about 30 per cent. of black extract. This extract is formed into rolls from 6 to 8 inches long, which are bound with bay-leaves to prevent them from adhearing together. The best licorice should be bright, brittle, without holes, and have a fragrant smell. Licorice is sold by brands, Solazzi and Corigliano being among the most esteemed in this country.

Spain produces very large quantities of licorice, most of which grows in Catalonia, on the Ebro (this being the best quality,) in Navarre, Old Castle, and near Cordoba, in Andalusia. Owing to its prolific character and the fact that it lives at the expense of the field crops, it is looked upon as a nuisance by the farmers, who do their best to extirpate it. It is usually collected in winter, cleaned, freed from rootlets, dried, and packed in bundles, when it is ready for the markets. The extract is carelessly and unskilfully made. The root is distinguished in several varieties, red, brown or yellow. Seville, Alicante, Barcelona and Bilbao export it. Turky in Asia, and Russia also produce considerable quantities, the former of root and juice, and the latter of root only. Russian licorice is usually imported here in very long bales, bound with several iron hoops and weighing about 3½ cwt. A few years ago the Russian Government placed the digging for licorice on the banks of the Ural river under stingent control.

The licorice grown in Yorkshire is mostly used for the preparation of what are known as Pontefract cakes. The roots, after having been dug in the autumn, are frequently watered during the winter, the juice extracted and boiled down, mixed with gum arabic and other ingredients, and made into large cakes.

Licorice is also grown to a considerable extent about Mitcham. The plants mature in the fourth year, and the roots are dug in November, trimmed and decorticated, cut into finger-lengths, and dried over a furnace and powdered. The trimmings are dried and made into horse-powders. If the root is not required at once it is placed in a trench in the ground. In this state it keeps fresh and moist for over a year. Fully 20,000 tons of licorice root are imported into the United States every year.

CARDAMOMS.

Cardamoms grow wild in the Ceylon jungles but about fifteen years ago they began to be cultivated in several districts of the island by European planters. The results of the venture turned out unexpectedly profitable, the yield having occasionally been as high as 400 lbs. per acre. Until a few years ago cardamoms was propagated only from the rhizomes, or bulbs, but since then it has been shown that they can be successfully grown from seed.

Until not very many years ago cardamoms were imported exclusively from the Indian mainland, and a considerable quantity, including some of very fine quality, are still drawn from that country; but since the cultivation have been taken up in Ceylon, that island has altogether eclipsed the Indian exports. Indian cardamoms are usually imported in large cases, containing from 1½ to 2 cwt., and the Ceylon variety in boxes usually varying from 40 to 80 lbs. in weight. The average crops in Ceylon during the last few years have been about 900,000 lbs.

RHUBARB.

This drug is grown in the Chinese provinces of Shensi, Sze-chuen, and Honan, also in most of the other northern and western provinces, and in Thibet. The province of Shensi yields the most valuable rhubarb, the best qualities being the produce of the district of Kan-chow. Sze-chuen rhubard is smaller and rougher and does not possess the fragrance of Shensi. It is said that the difference in quality is entirely attributable to the dissimilarity in soil and climate between the two provinces, and not to any difference in the method of cultivation or preparation. The roots are dug when they are six or seven years old, just before the flowering season, and again after the seed has ripened. The largest and best roots are peeled, cut in length measuring from 4 to 5 inches, bored through the middle, placed on strings, and hung up to dry. The smaller and poorer roots are merely dried, sometimes in the sun, sometimes in kilns. The Chinese distinguish the following varieties of rhubarb: 1. Hsining, deriving its name from a place so called in the Kansuh district and Chungchi: 2. Chihuang; 3. Tai huang, both worth only about one-fourth or one-fifth of the former; and 4. Shan-huang, worth a little less than No. 2. The overland rhubarb trade with Russia, via Kiachta, has almost entirely disappeared since the opening of the treaty ports. In England rhubarb is grown near Banbury, in Oxfordshire. The crop is about 8,000 pounds per annum, of which almost half is sold for export. The varieties cultivated are Rheum officinale and Rheum rhaponticum, the former having been introduced in 1867. The roots require from five to seven years before they reach maturity. They are dug up in dry weather between July and September, exposed to a current of air for a few days, cut into flat and round pieces, and dried by artificial heat.

The Effect of Exposure upon Some Constants of Oils.

BY H. BALLANTYNE.

[Continued from April 1, page 35.]

3.—COLOR.

The quantities exposed to both sunlight and air (A. and B.) were rapidly bleached, castor, rape, arachis and linseed becoming only faintly yellow, and cottonseed almost perfectly colorless. Olive oil gradually developed from a strong yellowish brown into bright pale green, and then faded until it became colorless.

The rapidity of the bleaching precess seems to vary in different olive oils, as in olive No. 2, mentioned below and in Table I., the color at the end of five months is only somewhat less yellowish-green than the original oil, whereas at the same period olive No. 1 had become bright green.

Quantities C., kept corked in direct sunlight, were slightly bleached, while the series kept in the dark were not at all affected, thus showing that light and air are both necessary to bleach or alter the color of an oil.

4.—SPECIFIC GRAVITY.

It was found that the specific gravities were affected to a very remarkable extent by exposure. Table II. embodies the results of determining every month the specific gravities at 15·5° C. of quantities A. (exposed to direct sunlight, uncorked, and agitated every morning) and C. (exposed to direct sunlight in a corked bottle).

TABLE II.—SPECIFIC GRAVITIES AT 15·5° C.

	Set. A.					
	Olive.	Castor.	Rape (colza.)	Cotton seed.	Arachis (nut.)	Linseed.
Original	916·8	967·9	916·8	922·5	920·9	932·5
One Month	918·7	968·1	918·3	9 3·7	921·3	933·1
Two "	919·3	969·1	917·2	924·1	922·1	9 3·6
Three "	920·8	970·0	918·5	926·1	8 3 3	935·3
Four "	921·5	970·0	9 8·4	927·8	923·9	9 2·9
Five "	922·7	968 5	920·0	930·4	92··6	937 2
Six "	924·6	968·3	920·7	93··0	926·7	938·5
	Set. B.					
Original	916·8	967·9	916·8	922·5	920·9	932·5
One Month	917·5	968 9	917·1	9 3·5	920 9	94··1
Two "	917·4	968·5	916·5	922·6	920·8	93·6
Three "	918·1	....	917·0	923·4	920·9	932·6
Four "	917·3	....	916·7	923.1	920·5	9 2·8
Five "	917·2		9 6·3	922·9	920·9	932·6
Six "	918.5	. ..	917.1	923·6	921·6	932·9

In A. we find that olive oil increased in density from 916·8 to 924·6, castor from 967·9 to 968·3, rape from 916·8 to 920·7, cottonseed from 922·5 to 932, arachis from 920·9 to 926·7, and linseed from 932·5 to 938·5 in six months. None of the oils was rancid till the fourth month. Series B., which corresponds with ordinary samples left in sunlight imperfectly corked, showed an increase in specific gravity to 920·3, 968·0, 919·4, 925 9, 924·0 and 9 6·2 in olive, castor, rape, cottonseed, arachis and linseed oils respectively. In set C., Table II., we find that some of the densities are affected to a noteworthy extent, but this change is apparently due chiefly, if not wholly, to slightly imperfect corking of the bottles, and the unavoidable admission of fresh air on the occasions when the periodical tests were performed.

Owing to these extraordinary and unexpected results, a large quantity of an entirely different olive oil (containing 11·28 per cent. of free acid as compared with 5·19 per cent. in the first-mentioned specimen) was exposed under the conditions marked *A.*, C. and F., and hitherto has shown results in accordance with those above, having increased in four months from 916·5 to 9.9·0 sp. gr.

It will be noticed that the increase in density of the oils is by no means regular, month by month. This irregularity is due to a combination of many causes, the most important one being undoubtedly the weather—the temperature and the quantity of sunshine. That the rise in gravity is not due to mere contraction of the oils was proven by exposing quantities of olive oil in tall bottles, and noting the volume of the oil, at the same temperature, before and after exposure; it was not found to have varied.

On examining these figures, one is at once struck by the remarkable fact that the specific gravity is not necessarily a criterion of the purity of an oil, at least as the test is usually applied. For instance, one might obtain far analysis a sample of olive oil of professed purity, which on examination showed a density of 920·8, but was not in the slightest degree rancid, and from its color and taste appeared to be simply a fine quality of olive oil. Could an analyst, in the present state of affairs, conscientiously certify such an oil to be genuine? He would probably believe that the sample was adulterated with some oil which he could not detect, and as our "constants" at present stand, he would be quite correct in taking that view. Yet such a case, and even a more remarkable one, could quite readily exist, as is shown by the above results.

Several other interesting peculiarities have been noted regarding the particular oils. It will be seen from Table II. A. that castor oil was the least affected of any by subjection to light and air, and after having increased in density during the first two months, gradually returned to almost its original gravity. In E. and F. (the quantities kept at rest in the dark, the latter securely corked), the specific gravity has fallen to 967·0. This last peculiarity, the depression of gravity in the series kept in the dark, has also been noticed in the cases of rape, earth-nut and linseed oils. The following shows the fall in density after six months' treatment:—

	Original.	D.	E.	F.
Rape	916·8	916·1	916·2	916·0
Arachis	920·9	920·3	919·9	920·0
Linseed	932·5	931·4	931·9	931·1

It is a striking fact that linseed oil, kept in the dark, exposed freely to the air, and even shaken up every morning, has not increased in density, but has rather diminished. In Allen's "Commercial Organic Analysis," Vol. II., p. 120, we find the statement that in the absorption by linseed oil of oxygen from the air, "the action of light is not essential," but that, "in the dark, the chemical change is induced very slowly, but when once begun, it proceeds very rapidly. The results yielded by the above experiments seem to show that the action of light is essential in bringing about the chemical change, as the quantity of oil was small and had every opportunity for absorbing oxygen.

The only oil which increased in density by exposure to air in the dark was cotton-seed oil, which originally had a specific gravity of 922·5, the figures for the individual experiments being—for D. 923·2 and for E. 923·2. Quantity F. was unaltered.

5. IODINE ABSORPTION.

Table III. contains particulars of the iodine absorptions of quantities A. and C., as determined month by month. In series A. no alterations of iodine equivalent beyond the limit of experimental error were observed during the first two months, and so unfortunately, most of the tests were omitted during the next two months.

TABLE III.—IODINE ABSORPTIONS, PER CENT.

Set.	Name of oil.	Original.	One month.	Two months.	Three months.	Four months.	Five months.	Six mon's
A.	Olive	85·16	82·53	82·33	81·59*	.....	79·13	78 24
	Castor	85·93	85·90	83·59	.....	.....	83·63	83·21
	Rape	105·39	105·90	105·01	.....	103·45	102·21	102·13
	Cottonseed	106·84	107·47	107·16	106·11*	.....	102·21	101·12
	Arachis	98·67	98·67	98·76	.....	.....	95·40	93·9
	Linseed	173·46	171·78	171·78	.....	96·33*	160·07	166·17
C.	Olive	85·16	83·16	83 65	.....	.....	82·30	82·64
	Castor	85·93	83·93	83·27	.....	.....	Discontinued.	
	Rape	105·39	105·59	105·21	.....	.....		
	Cottonseed	106·84	107·16	107·24	106·65	105·12	101·79	101·27
	Arachis	98·67	98·67	98·81	.....	106 90	100·40	100·40
	Linseed	173·46	173·03	172·93	.....	.....	159·12	17·01
								172·98

[* The three figures marked with an asterisk in the table are obtained from the results given by quantities B. Thus, arachis oil, quantity B., gave a specific gravity corresponding very closely with that of quantity A. at the fourth month, so that the iodine absorption of the former, stated in Table III. as 96·33 per cent., is practically equivalent to the 96·35 per cent. of quantity A. at the same period. Quantity B. of the cottonseed oil gave a density fairly corresponding with the density of the cottonseed oil given by A. at the third month. This corresponds with the gravity of 930·1 given by

From the figures given it will be seen that for some time the halogen absorption is almost unaffected by the exposure to light and air; then a sudden break seems to occur, probably at the third month, at which the absorption suffers a depression, after which it continues rapidly to fall. This point of change in the iodine number takes place a month before the oil becomes rancid; in most cases much longer. Of quantities B., under the same conditions as A., only undisturbed, the results corroborate those in the table, but

course the depression has not gone so far. The only oil which has not decreased in iodine absorption is castor oil, which is thus exceptional both in regard to specific gravity and iodine number. It will be observed from the results at C., Table III., and those mentioned below, that in nearly every case both air and light are necessary to cause this change in iodine absorption, just as is the case with the density. There is, however, no numerical correspondence between the changes which take place in the gravity and in the iodine equivalent.

The quantities of the oils kept in the dark have in almost every case shown a slight increase in iodine number. Rape oil, however, is an exception and it is the only oil whose iodine equivalent has decreased independently of the action of light. Experiment D., at the end of six months, has shown an absorption of 101·17 per cent. She original, kept corked in the dark, was not alterek.

6. MAUMENE'S TEMPERATURE TEST.

Archbutt has recorded the fact that when olive oil is exposed to light for some time, the temperature reaction with sulphuric acid is increased to a considerable extent; to an extent, indeed, beyond the limits allowed to genuine olive oils. The figures he gives are:—Rise of temperature of oil kept in dark, 41.5° C., ditto in portion exposed to light, 53·5° C. Unfortunately no motion is made of whether air was permitthd to act on the old exposed to light, nor of the duration nor circumstances of the exposure. In order to determine these points, and also to ascertain if the results yielded by olive from a general rule as to the behaviour of other oils, the rise of temperature was estimated in quantities A., C., D., and F., of all the oils after six months' exposure. As the results obtained were merely intended for comparison among themselves, ordinary concentrated sulphuric acid was used without any regard to its strength. Otherwise the tests were performed under the conditions mentioned in Allens "Commercial Organic Analysis," Vol. III., p. 53. the highest temberature reached during the stirring being noted as the rise of temperature.

The results obtained are combodied in Table IV.

TABLE IV.—TEMPERATURE REACTIONS.

Set.	Olive.	Castor.	Rape.	Cotton-seed.	Arachis.	Linseed.
	°C.	°C.	°C.	°C.	°C.	°C.
A....	67	78·5	72·5	100	90	131
C....	47	74·5	63	76·5	77	120
D....	47·5	73	60·5	76·5	72·5	112·5
F....	44	73	61·5	75·5	73·5	113 5

Series F, having been kept corked in the dark, may be assumed to represent the original genuine oils. As was to be expected, in every case has the remarkable increased rise of temperature been noted, but it has also to be observed that, except perhaps in the case of linseed oil, this change is not brought about by sunlight alone, as would be inferred from the foot note in Allen, vol. II, p. 99. Neither is it produced by the sole action of air, but by the combined action of both air and sunlight. This latter fact brings the change in temperature reaction on to the same footing as the alterations in color, density and iodine equivalent. The slightly increased rise of temperature in series C is in all probability due to the same cause as the similar elevation of specific gravity in the same quantities, namely, the admission of fresh air on the occasions when the oils were examined. It would appear that linseed oil, however, is affected by light alone, although not to such an extent as by the simultaneous action of light and air.

An examination of these temperature reactions in Table IV., in conjunction with the specific gravities in Table II., raises some very important questions. It will be observed that the rise of temperature varies directly as the density—the greater the increase in gravity, the greater the increase in temperature reaction—and therefore if an oil be placed under circumstances favorable to the raising of its specific gravity, it will also be likely to suffer a rise in temperature reaction. Now the temperature test is pretty generally adopted as a standard for the purity or olive oils, as few oils of importance have so low a temperature reaction, the limits permitted (allowing for the variation in results obtained by different methods) being from 39° to 45° C. Taking the case mentioned under "specific gravity" of an olive oil having a density of 920 8, the rise of temperature with sulphuric acid would at least be as high as 55° C., and these two data would in all probability be taken as almost conclusive proof of sophistication of the oil.

In analyzing olive oils that have been stored for a long time in order to become acid for use in dyeing, the validity of the temperature reaction and specific gravity as tests becomes a very important matter. For instance, an undoubtedly genuine olive oil for dyeing purposes, containing 9·67 per cent. of free acid, which some time ago had a specific gravity of 915·4, and has lain for a few months in occasional diffused sunlight in a corked bottle containing a large quantity of air, has now a density of 918·6, and gives a rise in temperature of 53° C. The iodine equivalent is low—78·9 per cent., probably having decreased owing to exposure, as in Table III.—and the color is bright green, the taste and smell being very faintly rancid. Another specimen of Gioja olive oil, which has lain under the same conditions, has a specific gravity of 916·6, iodine absorption 79 per cent., free acid 9·42 per cent., and temperature reaction 49° C. The color of this sample is deep green, the taste and smell being quite sweet. Evidently in such cases Maumene's test and the specific gravity are not reliable criteria, and even the iodine equivalent may be misleading if the original oil had already a low halogen absorption.

7.—SPECIAL TESTS.

It was found on applying the elaidin test to olive oil, that the solidification of the mixture did not differ in quantities F. and D., both of which were kept in the dark. Quantity C. also yielded a solid elaidin, although not quite so hard as those given by F. and D. Experiment A., however, which had been subjected to the simultaneous action of light and air, showed no tendency even to thicken, when submitted to the elaidin test.

The efficiency of Bechi,s test was impaired to an exceedingly great extent in the quantity of cottonseed oil exposed to both light and air. Experiment F, by Pattinson's modification of the test, gave a black precipitate and coloration, whereas quantity A only imparted a light brown color to the solution.

The conclusions arrived at from these experiments are, that the indications of the specific gravity must not be too readily accepted in cases where they point to the falsification of an oil. Neither should Maumene's test be relied on implicitly, and, indeed, where the gravity of the sample under examination and the rise of temperature are abnormally high, and no clue can be discovered as to the supposed adulteration, these two tests, taken conjointly, should be considered as showing that the oil is an old one, or has been subjected to the conditions mentioned above. Even a very low iodine equivalent should not have much reliance placed upon it, unless the free acid and other tests show the oil to be fresh, and some satisfactory indications of adulteration are obtained. Apparently, however, the iodine absorption is the test which should be most depended upon, as it is the least liable to alteration of all the tests examined (except the potash neutralizing power), and it only varies when radical changes have already taken place in density, &c.

Lavender—Its Cultivation and Distillation.

BY J. CH. SAWER.

The principal lavender plantations are in the districts of Mitcham, Carshalton and Beddington in Surrey, Hitchin in Hertfordshire, Grove Ferry near Canterbury in Kent, and, until recently, at Patcham in Sussex. The Surrey and Hertfordshire plantations are situated on the outcrop of the chalk which surrounds the London basin. The most suitable conditions of soil are found to be light brown loam over chalk—the depth of the loam being very slight, varying from 6 to 18 inches. Of course on the slopes there is hardly any soil at all in some parts, and in some of the hollows it is as deep as 4 feet. There is often a thin seam of Coombe rock—of a soft, dry, pulverulent nature, light brown in color; this is very beneficial to the plant. In selecting ground, a site should be chosen which slopes rather to the south or southwest. A wood or copse on the southwest boundary is of great advantage to ward off the full force of the gales which generally come from that quarter. Although in the late autumn and winter months the plants, having been clipped, present little resistance to the wind, yet gales sometimes occurring in July may do damage; the tall green spikes wave like corn in the wind, but with such weight and momentum as to cause the woody branches to snap at the shoulder. Tall trees in the immediate vicinity are objectionable, keeping off too much light and air. Hedges are useful to keep off dogs, but they should be cropped very close and low. Walls of any sort are very objectionable, as the wind is thrown back from them—more dangerous, in effect, than the direct action of the wind, which drives through the plants. The autumnal and winter gales can do little damage, as the spikes are harvested, and the plants present a stiff and stubbly appearance, but are yet somewhat brittle to the touch, and care should be taken in hoeing down weeds between the rows to avoid roughness to the branches either with the hoe or with the leg. I may also mention that, as the roots often spread near the surface, it is dangerous to hoe deeply. The weeds, as a rule, can be got out with a hoe only 1 inch deep in the blade; the blade should be long (about 9 or 10 inches), in order to reach under the branches without dragging them,

In cleaning the ground preparatory to planting, the weeds should be thoroughly rooted out, stacked in small heaps, and burned; the ashes being afterwards distributed over the ground. A soil of the nature described is generally full of large flints; those on or near the surface should be taken out, as being quite unnecessary and only likely to break the tools. These flints can be used as foundations to paths or sold; they have a marketable value for road-mending.

It is advisable to prepare the soil previous to planting by trenching in a quantity of short straw or refuse from stables, not simply dung as many growers prefer. Any amount of dust-bin rubbish (cinder-ashes) should be dug in, with the addition of some crushed oil-cake: the ground should then be allowed to lie fallow until the spring, when all weeds should be cleared off and the whole ploughed over. In May, according to the weather, the young plants can be dibbled into their places in rows North to South, 4 feet apart and 5 or 6 feet between the rows. Some growers plant much closer—hedge fashion; but it is false economy, the flower-bearing capacity of the plant is decreased, absence of light causes leaves to drop off and young spikes to decay prematurely; also, if the rows are less than 5 feet apart, it becomes impossible to weed clean between them and, in harvest, still more difficult for a man to walk between them to cut the flower and deposit it until he has enough to carry up to the still. Yet, it may be said that, in very exposed situations, the plants support each other against the wind if grown as hedges.

After planting there is nothing to do except to clean out the weeds until the harvest. The weeds should be cut down when young, they then perish on the spot; but any large weeds should be lifted bodily out and placed in a heap on any vacant ground near to rot or to be burned. For the convenience of gathering in the harvest and removing weeds, it is well to make paths, about 4 feet wide, intersecting the rows, about 50 yards apart, and leading up to the stillery. Thus, if the rows are planted north and south, the paths should run east and west, and lead to a main path. The young plants should be prevented, as far as possible, from flowering the first year by clipping them with shears (sheep-shears,) this throws the strength into the lateral shoots and makes the plants bushy and compact.

The harvest depends upon the season; white frosts in May retard the growth (especially of plants near overhanging trees,) but black frosts do not so injure them. As a general rule the harvest may commence the first week of August if the weather be dry. The cutting usually commences as early as possible in the morning before the dew is off. Flowers so cut seem to yield more oil than those cut in the heat of the day, but the necessity of getting the whole lot out quickly, when once ripe and ready, requires cutting to go on all day long, unless many men be employed. In wet weather none should be cut. If the days are bright and hot during June and July the yield will naturally be better in quality and quantity than if wet and dull. There are sometimes seasons of unusual heat and drought; I have then noticed a smaller quantity yielded, but an infinitely superior quality. Such may be termed "comet" years, as in wine; and the oil of such years is sold on date accordingly, at a price higher than the ordinary. There are also years of unusual rains, such as 1887. The quality of the oil of that year was poor and the excessive moisture killed many plants which would have yielded well in 1888.

The spikes when cut should be kept as much as possible straight together in large bundles and carried near to the stillery, being laid on the ground in the shade in long rows. Some growers allow these heaps to sweat—or partly ferment and partly dry—for some little time before distilling. This is quite a mistake—the oil already exists in purity in the ducts of the flower, and is not an after-product or a "ferment oil," that is, not an oil produced by after fermentation of the vegetable juices. If the oil as it exists requires oxidation, it is preferable to allow that process to take place after distillation, and not in presence of organic matters which may act injuriously upon it. A bench should be fixed, one man should hand up large bunches to another at the bench, who cuts off with two or three strokes of a large knife, or a chaff cutter, the flower tops from the stalks; these flower tops should at once be packed into the copper basket, which fits into the still, and well pressed down until full. Or, another method of harvesting may be adopted, with economy of labor, if the spaces between the rows be free from weeds: Two laborers commence a row; the first, with a pair of sheep shears, clips off the flower spikes with as little stalk as possible, and throws them into a basket; the second follows, and, with a similar pair of shears, cuts off the now useless stalks down to the first eye, or leaf formation, and throws them on the ground, where they can afterwards be hoed in. An advantage of this method is that women can do this work as well as, or neater than, men and at a much lower rate of wages; also, the flower need not be so long exposed to the air, as it can be put into the still at once, and with less stalks.

The distillatory apparratus may be varied in form according to the amount of work to be done, &c., but the main principle applies in all cases. Different materials require different methods of distillation, partly by reason of difficulty or facility which the oil finds in escaping from the glands or ducts which contain it, partly by reason of the higher or lower boiling-point of the oil, also taking into consideration whether it can deteriorate by excessive heat or by contact with water. As regards the flower under consideration, it has been proved that actual contact with water in the body of the still yields the finest product, but the still may be packed slightly higher than the water-level, as the water will boil through it. The body of the still should be very shallow compared with its depth, otherwise the steam generated at the commencement of the operation, in the lower part of the charge, would condense in its upper part and remain there until volatilized a second time by the rising heat. The less time the oil is subjected to the action of the heat the finer its aroma will be.

The basket in which the flower is packed is a copper cylinder, three-fourths the depth of the body of the still; it is perforated at sides and bottom with holes of one-eigth of an inch diameter—to allow free circulation of water. It is provided with a copper lid similarly perforated, and has a lug or ring on each side to allow of its being lifted in and out of the still; this is done by overhead differential pulleys. The Tangye chain pulley can be used, or, for larger work, a swing crane; but several small stills are preferable, for many reasons, to one large one. The copper basket fits within an inch of the still, at sides, and has three or four legs an inch long to rest it on the bottom of the still. The quantity of water put into the still should reach to within one-fifth of the height of the basket. The flange at the top of the still is then spread with a lute composed of equal parts of flour and whiting made into a thick paste, and the head, or steam dome, secured by iron screw clamps round the flange. The condenser consists of a coil of tin pipe enclosed in a cylinder or drum of galvanized iron, and this condenser is connected with the still by a curved pipe, also of pure tin, secured at each end by a brass union, the pipe being passed through the connecting screw and ground to a flush surface. The fire is immediately lighted, and the vapors will begin to condense in about three-quarters of an hour from the time of lighting; this is ascertained by feeling the connecting pipe. A copious supply of cold water is then turned into the condenser, which was previously filled; this descends by a piece of zinc pipe to the bottom of the condenser, and the overflow of heated water is carried off at the top into a gutter. The condensed oil and water are collected in a Florentine receiver, the oil, of course, floating on the top and the waste water escaping into a waste pipe. The whole of the oil, or the finest part of it, will condense during the first twenty minutes or so of the upper part of the condensing worm becoming hot; this can be verified by watching the receiver and noting the depth which the oil attains on the surface of the water. The last oil which condenses is slightly inferior, and it is not advisable to collect it with the first portion. This is managed by substituting another receiver toward the end of the operation. The flow of cold water through the condenser can then be stoppped and the furnace-door opened to damp the draught. The connecting-pipe should be carefully unscrewed with a spanner, detached, and the clamps removed. The steam-dome is then lifted off, and the cylinder with its contents hauled out by the over-head tackle, which hooks on to the lugs by chains. The great weight of this is easily pulled up if differential pulley-blocks are used, and, being raised out of the boiling water above the edge of the still, is dragged aside by another rope hooked on to it, and lowered into a barrow or truck. The spent power is stacked in a heat to rot. The use of the perforated basket is two-fold—first, it enables the operator to pull out the charge clean, all at once, without drawing the fire, so that the still is ready for a fresh charge; second, and most important, it prevents the flower from scorching by contact with any part of the still. While the basket is being refilled the dirty water syphoned out and fresh water let in at the same time by a pipe smaller than the syphon, but admitting enough to prevent the copper burning. When the basket has been replaced the complement of water is run in and the operation goes on as before.

As a rule such boilers are emptied by a large tap at the bottom, but then the boiler cannot conveniently be lifted up to clean off the soot (which it is necessary to do frequently to economize fuel). The syphon employed may be described as follows: The short leg descends to the bottom of the boiler, the longer leg is then closed with a bung, and a cap at the bed unscrewed. The long leg is filled by letting in water by a flexible pipe through this orifice; the cap is then firmly screwed on and the plug at the end removed; the hot water (which has the color of porter) will then empty itself out very rapidly. The oil which has collected on the surface of the water in the Florentine receiver is drawn off by a pipette, and put into a large bottle to clarify, or deposit watery particles mechanically held in solution. The clear oil is afterwards poured into Winchester quarts, which should only be filled to within 1 inch of the top (not counting the neck); the oil, being expansive on increase of temperature, would otherwise overflow. The oil as first collected has a very slight empyreumatic odor; this is prevented as much as possible by the flowers being enclosed in the inner cylinder to avoid contact with the sides of the boiler; there is also a herby odor noticeable in freshly distilled oil; if the bottles be put in a very cool place, in the dark, and left uncorked, but loosely plugged with cotton-wool, these odors will pass off in about two months. Preferably the bottles should

be placed in vessels of cold water up to the neck.

The herby odor is probably due to particles of water of vegetation being held in suspension or in solution; it may be remedied by drying the oil with calcic chloride.

Spirit of wine should not be added to new oil; it would cause a slight etherification, the odor of which is very unpleasant.

Although the plant retains vigor for five or six years, cuttings should be taken continually, to replace any plants lost through breakage, wind or frost. Cuttings will freely strike if taken between the beginning of May and the middle of October. Young cuttings should be shaded from the sun and watered. The cuttings taken previous to the beginning of August will throw up spikes, which must be carefully nipped off. Such cuttings will, of course form larger plants by next season than those taken after flowering-time. All cuttings taken should be of young growth, and taken at the joint with a heel. Young shoots strike more readily than woody branches, and produce more compact plants. These slips can be planted 3 or 4 inches apart to root, and allowed to remain in that position until the next May, when they must be carefully lifted with a long-pronged spud, and set in their ultimate positions in the ground prepared. Holes at measured distances should be dibbled, and good mould pressed in over the root. Mild, moist weather should be selected for planting. The process of roughly taking cuttings, or clippings of branches, and striking them, thickly planted together in rows or trenches, as adopted by some growers, is about the very worst method of propagation. Plants propagated in this way have to be dragged apart, tearing the bark and injuring the delicate roots, and so inducing on the wounded organs a fungoid disease. The effect of this disease is that in July, when the plant is making its greatest demand on the root, the young spikes, which are just beginning to show color, will droop and wither. Plants presenting these symptoms should be at once rooted out and burned, and their places left vacant until the next May. This disease may also be induced by carelessly scraping the main root of the plant with a hoe, or by excessive application of stable manure.

The health of the plant must also largely depend upon keeping the ground clear of weeds, so allowing free circulation of air. The presence of the blue corn flower and the poppy indicate a dry soil suitable to lavender; these, and such weeds as groundsel, thistles and chickweed, which seed in abundance, should be eradicated whilst quite young, otherwise the work will be endless and the plants choked. The ground ivy is a fearful enemy, the disagreeable odor of its foliage being so strong that a few pieces of it accidentally put into the still would spoil the entire charge of flower. If land be well cleaned in September and October, it will require very little more attention till the following early spring, and then only requires going over once or twice well with the hoe. Weeds cut down, buried or removed before they seed, mostly decay, except, of course, couch grass and ground ivy; but the seeds of many weeds (such as charlock) will retain vitality for a very considerable time, even for centuries, and germinate on the first convenient opportunity. Some weeds, such as dock and dandelion, will not perish if the tops are chopped off; the roots even seem strengthened, and will shoot out with increased vigor. The couch grass should be completely dragged out and burned, as it sends out creeping roots which shoot and re-root at every joint. With lands which are ploughed up once a year these difficulties with weeds are not so great; however the total cost of labor, compared with ordinary market gardening or farming, is very slight.

RENEWING THE SOIL.

Some growers clear out all the plants after five years, and substitute a crop of potatoes or other vegetables; such crops are not so remunerative, and the elements drawn from the soil can otherwise be replaced without changing the crop. In a plantation of 5 acres, if each acre be set with plants of different ages—which is convenient for a beginner, who may find it very difficult to procure more than enough to plant 1 acre to start with—there are always 4 acres of plants in flowering condition; in the autumn of the fifth year acre No. 1 can be cleared, the old plants stacked in heaps and burnt, the ashes being distributed over the land. The land should, of course, be thoroughly cleaned and deeply ploughed or dug; waste straw, all the refuse stalks and spent flowers of the last harvest, and a quantity of cinder ash and oil cake should be dug in or covered in by cross ploughing, and then left fallow until the beginning of next May, when the young plants can be set. Thus as much or more is actually returned to the earth than has been abstracted by the plant during its life, and the waste stalks economically got rid of. Also there is sufficient space for propagating young cuttings.

OIL OF LAVENDER.

The newly distilled oil is almost colorless, or very pale straw color, when viewed in bulk. It is mobile, lighter than water, and of a specific gravity of about ·876 to ·880, the lightest and most fragrant, having the lowest boiling point, being the first to come over from the still. It appears to be a mixture, in variable proportions, of oxygenated oils and a hydrocarbon, $C_{10}H_{16}$. It contains in solution a stearoptene, or body identical with camphor.

The oil improves, or mellows, (like brandy or wine,) by keeping. This improvement is distinctly noticeable during the first five years; after which unless kept under exceptional conditions, it deteriorates, oxidises and rosinifies; this can be prevented by admixture of 20 per cent. of grape spirit.

Re-distillation or rectification, is said to improve the quality; but this is very questionable. I think the less it is submitted to the action of heat the better; however, if I wished to rectify it, the first step would be to wash it thoroughly by agitation with an equal volume of cold water in which a little carbonate of magnesia has been mixed, allow it to rest in a cold place to separate, then draw off the supernatant oil and distill it with an equal bulk of fresh water in a vacuum still at a low temperature; then heat being applied by a steam jacket and the distillate collected in two portions, the first four-fifths being retained and the remaing fifth kept apart as inferior.

By reason of its high price the English oil of lavender is frequently met with in commerce adulterated largely with the French oils of L. vera and L. spica. This can be detected by comparing a sample of known purity with the suspected sample. Apart from the keen sense of smell possessed by accustomed buyers (and acquired by experience,) the boiling-points, specific gravities, and optical effects under the polariscope (which are different with all these oils) can be observed.

If the density is below ·87 there is reason to suspect adulteration.

The pure oil is completely soluble in three volumes of alcohol of a specific gravity of ·894; a less solubility indicates that it contains oil of turpentine.

The presence of alcohol may be detected by agitating the oil with a few small pieces of dried calcic chloride; these remain unaltered in a pure essential oil, but dissolve in one containing alcohol, and the resulting solution separates, forming a distinct stratum at the bottom of the vessel. When only a very little alcohol is present the pieces merely change their form and exhibit the action of the solvent on their angles or edges, which become more or less obtuse or rounded.

Santaline (the yellow coloring matter of santalwood) is nearly insoluble in pure oil of lavender, and exerts no marked influence on it, but it is freely soluble in oil of lavender adulterated with alcohol or rectified spirit.

By distilling in a water-bath any essential oil which has a higher boiling point than spirit it is certain that if spirit be mixed with it as an adulterant, the spirit will be the first liquid condensed in the receiver, (with only a trace of oil.) This spirit may be recognized by the smell and taste; should, however, a doubt exist, add to the distillate a little acetate of potash and strong sulphuric acid, then heat the mixture in a test-tube to the boiling point, when, if alcohol be present, the characteristic odor of acetic ether will be manifest. The presence of fatty oils may be readily detected by placing a drop of the suspected oil on a piece or white paper and exposing it for a short time to moderate heat; if the oil is pure it will entirely evaporate, but if adulterated with a fixed oil a greasy or translucent stain will be left on the paper. Fixed oils will also remain undissolved when the oil is agitated with three times its volume of rectified spirit. They may also be estimated by distilling the suspected oil with water—the fixed oil will remain in the retort.—*Chemist and Druggist.*

Advantages of Using Potash Salts, or Kainit.

The following is taken by the *Chemical Trade Journal* from a paper read by the Hon. F. Krichauff before the Central Bureau of Agriculture, Adelaide:

Until quite lately, little was known scientifically as regards manuring, with muriate of potash or with kainit. The experience of practical farmers is almost all that is known. The capability to draw potash out of the soil and to assimilate it is very different among our cultivated plants. Lucerne requires four times as much nitrogen as wheat; but it has also the faculty to make use of the much more plentiful source of nitrogen in the atmosphere, while wheat has to draw its nitrogen from the soil. Experiments were lately made by Prof. Dr. Wagner at the experimental farm at Darmstadt, 1, to ascertain how much potash is required as manure by different plants; 2, how much can they assimilate; 3, what will be the quality of the produce after manuring with potash. His experiments with barley, potatoes and rapeseed were made in pots containing 39½ lbs. of soil; those with peas, wheat, rye, oats and barley, again in pots containing 13¾ lbs. of soil. The pots were filled either with a loam containing 0·23 per cent. potash, viz, 35 and 11½ grams respectively, or with a light sandy soil containing 0·096 per cent., viz, 7½ and 2½ grams respectively. At the time the seeds and potatoes were planted the small pots received ¾ gram, the larger 2 grams of potash, and as much nitrogen and phosphoric acid as would secure the largest crop.

The results were, 1, that with all plants, except potatoes (see her on), the manuring with potash w[as] otly visible; 2, in the sandy soil, which was poor in lime, the results were more perceptible than in the loam, which itself contained more potash; 3, the several plants require more or less manuring with potash. It was very perceptible in rye, wheat and barley; after the first fortnight you would observe the hunger for potash, and these cereals remained poor in the pots which had not been manured. Peas, on the other hand, were abnormally good also without the manure, for they produced a weight of 128 grams on the loamy and 80 grams on the sandy soil, while rye gave 64 grams and 35 grams, wheat 62 grams and 43 grams, and barley 45 grams and 19 grams respectively in the loam and in the sand.

The difference in weight of the produce with the manure was not given, but the photos. exhibited it very early. Oats do not improve much with the kainit. Without it the weight was 151 grames for the loamy and 96 grames for the sandy soil. Barley shows by far the greatest difference, and it is also of greater value for brewing if manured with kainit and phosphate acid, as the grain contains more meal and less protein. The weight of all grains of cereals is also greater, the proportion being as 19 to 25. There is another matter worthy of remark, that all plants flower more at the same time, and the formation of the fruit is earlier. Potatoes seem to prefer manuring with kainit for a previous crop, more especially in sandy soils. It requires some time to dissolve larger quantities of the plant-food out of the soil which potatoes require, and these will not be lost in a season, but remain in stock.

Of the absolute necessity of potash for plant food there can be no doubt. It is essential to the life of plants, and there seems to be no end to its combinations with other component parts of the soil, which are thus dissolved and made assimilable. Wheat having been grown frequently in Australia on the same soil for many years in succession without any intervening crops, it stands to reason that the potash in the soil must have become exhausted, and, unless it be supplied, no satisfactory crop of this cereal can be expected. With other cereals (except oats, especially on strong soil) the same results have been observed as with wheat. Potash nitrogen, and phosphoric acid must be replaced. This can be best accomplished by superphosphate and Chili saltpeter, or sulphate of ammonia (unless sufficiently enriched by a previous leguminous crop) in conjunction with kainit as before stated. Only in heavy, cold, and wet land kainit is not to be recommended; but of such South Australia has but little. Several trials made by Dr. Schieh, of growing wheat with or without kainit, at the Experimental Agricultural College at Herford, proved the value of kainit. He manured one-half of the land with 71 lbs. of phosphoric acid, in the form of superphosphate, and 52 lbs. of nitrogen in the form of Chilian saltpeter. The other half received the same, and in addition 67 lbs. of potash in the form of kainit, or at the rate of 534 lbs. per acre. From square-head wheat he obtained—

	Lbs. Straw.	Lbs. Wheat.
With kainit	5,312	3,471
Without kainit.....	3,773	2,603
Increase in yield.	1,339	868

And in another case, with 160 lbs. of nitrogen and 1,200 lbs. of kainit, matters were still more favorable. The cost of the kainit was 24s, and the wheat realized the sum of £9 in excess of the other field, which received only nitrogen. Experiments made with kainit at the experimental agricultural stations of Amherst, (Mass.) and New Jersey, show that it will increase greatly the weight of the dry stalks of wheat and maize, and actually almost doubled that of the grain, where other manures were used, and without manure. At Amherst, three fields gave an average of 3,338 lbs. of dry stalks against 13,596 manured with kainit, and 134 lbs. of corn against 2,912 lbs. It almost seems as if the fields could not have been of equal size.

Dr. E. Wolff, professor of the Agricultural Academy of Hohenheim, admits that Schultz, of Lupitz, has proven on his poor land what can be done by manuring with the nitrogen of the air. He plants leguminous plants for a crop, and leaves the roots and stubbles for the succeeding crop as a fertilizer. His well-paying crops, on very poor soil, not considered worth cultivation, were raised under the following rotation:—

(1) Rye (for which we might substitute, probably better soil, wheat), manured with 170 lbs. superphosphate, and 525 lbs, of kainit per acre. In the stubie lupins (with us another green crop might do for ploughing in) are sown with another 525 lbs. of kainit. (2) Oats. (3) Potatoes, with 12,800 lbs. of stubble manure. (4) Peas, with 174 lbs. superphosphate, and 525 lbs, kainit. (5) Rye (for which we may say wheat). with 175 superphosphate, and 525 lbs. kainit. (6) Clover, (for which we have to substitute another leguminous plant). As cereals are certainly no potash plants, Professor Dr. Wagner made experiments to show that a plant, which contains six times as much potash in its dry harvest substance as another, does not require therefore, a proportionately larger amount of potash fertilization, He asserts that the capacity to take up the potash supply of the soil, and to utilize that potash so taken up, differs amongst the various plants. It is also settled by Wagner's experiments that manuring with nitrogen produces no effect whatsoever upon the class of nitrogen-gathering plants (leguminous). He had wheat, barley, beans, and lucerne manured with 18 lbs. nitrogen per acre, also with 31¾ lbs., and with 45 lbs. with the like quantities of phosphoric acid and potash; also a piece of the same field manured only with the latter without nitrogen.

	No nitrogen.	18 lbs. N.	31¼ lbs. N.	45 lbs; N.
Barley.....	100	161	220	272
Wheat.....	138	212	270	318
Beans.....	935	938	961	980
Lucerne.....	976	983	1,000	994

This experiment showed clearly that beans and lucerne were able to obtain enough nitrogen from the air to produce as good a crop without the nitrogenous manure. The most costly element of plant food is, therefore, not required for leguminous plants. Barley and wheat showed, on the contrary, very superior crops with the nitrogenous manure, and proportionate with the increased quantity applied.

For South Australia, we may come, after consideration of the foregoing, to the following conclusions, viz.: 1. That leguminous (pea flowering) plants ought to be far more cultivated; 2, that green manuring should not be neglected; 3, that it is wasteful to manure leguminous plants with nitrogen; 4, that superphosphate and kainit will greatly increase crops of cereals, &c., if applied with nitrogen, or after leguminous plants; 5, potatoes ought to be manured with kainit to a previous crop 6, the use of kainit in our dry climate may give us the further advantage of keeping the soil moist, and by giving the more vigor in the stalk it may better resist the plant attack of red rust. It is even said that the acids contained in these Stassfurt potash manures will weaken and even expel the rust. The quantity of potash manures to be applied per acre is not at present at all settled. From 200 to 400 pounds are spread broadcast and ploughed in as long as possible before sowing your seed, and afterwards from one to two cwt. of superphosphate if needed. Many mix the kainit with an equal quantity of lime, where the soil does not contain the requisite lime. To fruit trees, vines and tobacco, about two cwt. per acre will prove very advantageous. A. G. Hamilton, in his notes on pests in peach trees, at the conference of fruit growers at Sydney, recommends potash against the fungus Uromyces amygdali, the absence of which caused the predisposition of the trees to the disease. One tree not treated with ashes was, as before, infected with the fungus, while others who had received for several weeks a bucketful each of coal and wood ashes were freed.

For tobacco, potassium sulphate is best; it keeps the leaves moist, fresh and bright. Peas, beans, beets and hops will delight in three cwt, of kainit, and vegetables in still more. Pastures improve with two cwt. of kainit. In the southeast I take it for granted that from one to two cwt. per acre will increase white clover plants, where they already grow, to such an extent that they will enrich the soil with much nitrogen, and thus enable also the grass in the following season to grow luxuriantly.

The demand for potash salts is growing from year to year, and this is no wonder, when the Agricultural Department of the United States for instance, states that 1,476,984 tons of potash were in 1887 removed from the soil of the United States by cereals, tobacco, potatoes, hay, and cotton. This would require 11½ million tons of kainit to replace it. The United States consumed of muriate of potash, in 1889, as yet, only 380,000 cwt.; England, 48,000; France, 118,000; Belgium and Holland, 100,000 cwt.; irrespective of the few large quantities of ground kainit, which contains about

24	per cent.	potassium sulphate.
16·5	"	magnesium sulphate.
13	"	magnesium chloride.
31	"	sodium chloride (common salt).
1·5	"	insoluble.
14	"	water.
100		

In 1889 Germany used 150,342 tons of kainit (irrespected of other potash salts,) of which 58,500 tons were distilled by the German Agricultural Society, under the management of Schultz-Lupitz, amongst the Farmers' Union, as its members could thus obtain it on the best terms. Other countries took, in 1889 113,109 tons of kainit. All the newest experiments with kainit and similar salts show that its use will increase yet very considerably, in Germany and the United States more especially.

The price of kainit, containing about 24 per cent. of potash, in Stassfurt, is from 19s. to £1. per ton; freight to Hamburg is about 6d. per ton if in at least 10 ton lots, and from Hamburg to Adelaide uncertain; but if shipped with about 2½ per cent of peat mould, added to prevent it turning the clods, it may be placed at Port Adelaide at from £2. 17s. 6d. to £3. 3s. per ton. According to Captain Wagemann, howevever, best German muriate of potash contains actually 51·3 per cent. of potash, and costs per cwt. free on rail at Stassfurt, about 7s. 6d. to 8s. Muriate of potash may, therefore, be considered the cheapest fertiliser, where freights are high. Before long I hope that sufficiently large and many experiments will be made by South Australian farmers, and that these will show all the advantages promised from the use of kainit or other kali salts.

Coal Tar or Aniline Dyes.

These are characterized for the most part by their easy solubility in water, the brilliancy of the colors they produce, and by their great dyeing or tinctorial power. Their disadvantage, compared with the mineral and other organic colors, lies in the fact that they are unstable or are liable to change when exposed to the atmosphere. Their examination is, therefore, often very difficult. Competing color makers and color dealers frequently introduce the same dye into the market under different names. It is important for the consumer to know whether any dyes offered to him as novelties are really new bodies or are only well-known colors sold under a different name.

It is difficult to ascertain with certainty, by chemical test, the true nature of many classes of dyes, as many of these are compound colors. They are frequently mixed with other bodies to reduce their relative tinctorial power. These bodies are sugar, dextrine, common salt, glauber salts, sulphate of magnesia, etc. The presence of metallic salts may easily be ascertained by burning a quantity of the dye in a platinum capsule and examining the residue.

The following list of reactions of the principal dyes occurring in commerce, printed in the *Chemical Trade Journal*, is compiled by Dr. Otto Witt:

RED DYES.

A. Insoluble or very difficultly soluble in cold and hot water.

1. Magdala Red.—The alcoholic solution is blue-red, with strong cinnabar-red fluorescence; solution in concentrated sulphuric acid is greenish-grey, and, when diluted with water, first turns red and finally reddish-violet.

2. Chinolin Red.—Insoluble in cold water, and slightly soluble in hot water. The alcoholic solution behaves as the above. The sulphuric acid solution is, however, colorless, and on dilution with a known quantity of water is changed to a deep magenta red.

3. Eosin (soluble in alcohol).—The alcoholic solution shows a greenish fluorescence. Solution in concentrated sulphuric acid is citron-yellow or orange, no essential change taking place on dilution with water.

4. Rhodindine.—The alcoholic solution is dirty-bluish red. Solution in concentrated sulphuric acid is green, which, on dilution with water, changes to blue-red.

B. Soluble in cold water and easily so on heating.

A. The addition of caustic soda to the solution causes a precipitate.

BASIC COLORS.

1. Fuchsine—Aniline Red, Magenta.—The aqueous solution is blue-red, and changed to yellow-brown, by hydrochloric or sulphuric acid, the original red being restored on addition of acetate of soda. Sticks of zinc immersed in the solution completely and permanently decolorizes it. A dilute ammoniacal solution dyes wool an intense red especially on boiling. The solid dye consists of green crystals, or is a green powder with metallic luster, and dissolves in sulphuric acid, yielding a yellow-brown solution.

2. Toluylen Red (neutralized).—The aqueous solution is blue-red, the addition of ammonia produces orange-colored flakes, which are dissolved by ether, forming a red-colored solution with yellow fluorescence. Solution in concentrated sulphuric acid is green; and on dilution with water is changed first to blue, then violet, and finally red.

B. No precipitate is produced when caustic soda is added to the aqueous solution of the dye.

ACID OR BASIC DYES OF THE SAFRANIN CLASS.

1. Gallein.—Caustic soda added to the aqueous solution produces an intense blue. The solution in concentrated sulphuric acid is brown-yellow, and changed to a reddish shade on dilution with water.

2. Safranine.—On adding alcohol to the aqueous solution, a decided greyish yellow fluorescence is produced. Acids give no precipitate. Zinc powder decolorizes the solution, but on exposure to the air the red color is restored. Solution in concentrated sulphuric acid is green, but on dilution changes first into ink blue, and then into red.

3. Eosin.—The aqueous solution is pure red, with greenish yellow fluorescence, which increases in intensity as the solution is diluted. By transmitted light the solution appears red. Acids produce orange-yellow flakes, which are soluble in ether. This ether solution is not fluorescent, but is pure yellow. Solution in concentrated sulphuric acid is yellow.

4. Eosin Scarlet.—The aqueous solution is bluish red without fluorescence. Acids produce a straw-yellow precipitate, soluble in ether. Solution in concentrated sulphuric acid is golden yellow. Zinc powder in presence of ammonia decolorizes the solution. This decolorized solution, when dropped into filter paper and exposed to the atmosphere changes to blue-red.

5. Phloxin—Rose Bengal.—Aqueous solution, blue-red, without fluorescence. Acids produce an orange-yellow precipitate, soluble in ether. Concentrated sulphuric acid dissolves the dye with orange-yellow color. Metallic zinc in presence of ammonia decolorizes the aqueous solution, but the color is not restored, or is very feebly so, on exposing this solution to the air.

6. Biebricher—Scarlet.—The hot, concentrated solution of the dye solidifies on cooling to a jelly-like mass. Acids produce a brown flocculent precipitate. On heating with zinc in presence of ammonia the solution is first pure yellow, and finally is decolorized. Concentrated sulphuric acid dissolves the dye, forming a grass-green fluid, which on dilution with water first becomes blue, and then a dirty brown precipitate separates out.

7. Crocein Scarlet. 3 *B.*—The aqueous solution yields on the addition of chloride of barium, a flocculent red precipitate, which suddenly crystallizes to a violet black powder on boiling, otherwise the solution is indigo blue, and passes from violet into red on dilution.

8. Congo Red.—The aqueous solution is colored blue by the addition of a trace (one drop) of acid. Cotton is dyed fast on boiling in the aqueous solution. Concentrated sulphuric yields a slate blue fluid, which does not alter in color on dilution with water.

9. Xylidin Ponceau.—Bronze glistening crystals separate on cooling a hot concentrated solution. Concentrated sulphuric yields a violet fluid, from which a brown precipitate is obtained on adding water.

10. Crocein Scarlet, 7 *B* extra.—On cooling a hot concentrated solution containing sulphate of magnesia, long glistening needle-shaped crystals are obtained. Sulphuric acid dissolves the dye yielding a violet solution. Wool is dyed a beautiful scarlet red.

11. Acid Azorubin.—Chlorides of calcium or barium, when added to the aqueous solution, yield an amorphous flocculent precipitate. Concentrated sulphuric acid dissolves it, yielding a pure rose-red or carmine-red fluid. On dilution with water brown-red precipitates are obtained for ponceau R, 2 R, 3 R, anisol red and coccin. These colors are distinguished by their individual shades or tones.

12. Dyes wool magenta-red. Chloride of calcium produces a red flocculent precipitate in the aqueous solution. Solution in concentrated sulphuric acid is bluish-violet, changing to red on dilution.

13. Echt Red Roceline.—The aqueous solution is deep brownish red: dyes wool the same color. Solution in concentrated sulphuric acid is blue, and when water is added to this blue solution, a yellowish brown precipitate separates. When a few drops of saturated soda solution are added to a boiling concentrated solution of the dye, brown shining scales separate out.

14. Bordeau B.—The aqueous solution is Bordeau red. The addition of chlorides of calcium or barium produce a flocculent amorphous precipitate. Concentrated sulphuric acid dissolves it with indigo blue color.

15. Acid Fuchsine.—Aqueous solution beautiful bluish red color, which is completely decolorized by caustic soda. Acetic acid restores the original color.

YELLOW AND ORANGE DYES.

A. The dye is insoluble in cold water, or very difficultly soluble in hot water, but easily soluble in alcohol.

1. Chinophtalon.—The alcoholic solution is

(Continued on page 50.)

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Boston Notes.

BOSTON, April 4, 1891.

Well, the trade of Boston has enjoyed one week of perfect weather and business has profited thereby. A good demand for painters' supplies has been stimulated and the jobbers have had about all the business they could well attend to. Even some of my best friends in the trade, who usually give me the most of their valuable time, were compelled to give me the cold shoulder on the plea of being very busy. But I forgive them freely, so long as I am able to report a good business for Boston during the week just ended. Beside the good supply of mail orders and those from traveling men that have come to hand, the market has been filled with out of town buyers who have come in to make their wants known in person. The largest amount of trade seems to be for such staple articles as ready mixed paints, lead, oil, turpentine, fillers, etc., and the implements for applying the same. The demand is surely improving as the spring advances, and buyers are already asking for the goods they have bought previously to arrive. Linseed oil continues steady. Turpentine is also steady, and benzine is steadily held. The white lead market is steady with quotations unchanged, though the tendency of pig lead has lately been easier.

The oil men find but little to relieve the monotony of a quiet trade. The firm position of lard oil, occasioned by the firmness of lard, seems to be fully maintained. Elaine is quiet, and tallow oil is firm. Sperm oil is firmer than previously reported, with round lots here quoted at: Prime crude, 73@75c; natural winter, 78@80c; bleached, 85@86c. Whale is also firmer, with no offerings of crude of any consequence. The market is here nominally quoted at 50c; natural winter, 52c; bleached winter, 56@57c; extra bleached, 58@60c. Menhaden oil is in very strong hands, and the scarcity of other oils makes the holders very firm. The market is quoted as follows: Prime, 29@30c; light pressed, 30@31c; bleached winter, 36@37c; extra bleached, 38@39c. Cod oils remain about the same, with quotations as follows: Shore, 32c; sun-dried, deep water, 33c: Labrador and Newfoundland, 42c. Sod oils are unchanged, and degras is steady. Cottonseed oil has advanced in price, and the markets are all very strong at the advance. The markets abroad are firmer, which creates a better demand for export. Cocoanut oil is very steady, as is also palm.

Bleaching powder is extremly dull. There is very little call for nitrate of soda. Essential oils are selling in a small way, the only feature in the list being sassafras oil, which is a little higher.

Quinine is in a good consumptive demand.

Aniline colors are in good demand.

The Massachusetts Druggists' Alliance dined at Young's Hotel Friday evening, President W. W. Bartlett presided, and there were fifty members present. A discussion of minor matters of general interest followed the dinner.

ALLAN ERIC.

St. Louis Notes.

ST. LOUIS, April 4, 1891.

The departing week has been one of more than ordinary animation in nearly all the leading branches of the trade, and the anticipated movement of spring stocks may be said to have commenced.

The most prominent event of the week was the advance in the price of linseed oil, occurring on the last day of March, when the crushers named 54c as the best margin on raw oil. After a long period of steadiness, unrelieved by even the usual predictions of a change, this rise in the market was a welcome feature of the business, and is pleasing alike to the manufacturers and the dealers.

The volume of trade in oil has been of a decidedly improved nature within the last few days, and though heavy individual orders are rare the aggregate sales fully compensate for any deficiencies of that kind. The various mills in this city and vicinity are busy and some are running without intermission, night and day. At the present price, linseed oil is unquestionably cheap and the increasing number of inquiries lead to the inference that the consuming trade is preparing to take early advantage of it.

A review of the flaxseed market discloses a slight improvement in the sitation since last Saturday, but the change has not produced any material results as to traffic. The week opened on a dull market, holders pleading almost in vain for $1 17¼ per bushel, while buyers were reluctant bidders at even a lower limit and at this figure quotations were nominal until Wednesday, when a reaction set in, resulting in a rally to $1 18 for pure Western seed, and a two cents better margin for Northern.

A good demand setting in at this point, the situation improved appreciably and an inevitable advance in prices became apparent which took place yesterday, and at the close a steady market at $1 20 bespeaks the present status of flaxseed. At this time, but little is being added to the supplies in store and since the last report not over 3,000 bushels have passed inspection at St. Louis and the withdrawals for shipment have virtually amounted to nothing. It is generally understood that the crushers are well fortified with an abundance of seed, and that their resources are equal to any demand that may arise for linseed oil.

The castor beans market has been depressed for some time and a gradual lowering of values has imparted a certain weakness to the commodity which makes it rather uninviting to investors. As late as three weeks ago, it seemed that owners of beans were masters of the market and could dictate prices at will, but adverse influences have operated to bring the quotations down from a firm $1 50 to a dubious $1 50 per bushel. Although beans are now designated as steady at this price, it is obvious that an undue lack of confidence exists regarding the stability of these figures. The supplies are limited and current receipts are not in the least liberal, not more than 2,800 bushels having been warehoused within the week, against which large shipments of nearly 2,500 bushels were effected to interior and other points. This ratio of receipts and withdrawals has been maintained since the beginning of the year, and no augmentation of present stocks may be anticipated until the next crop of beans is harvested.

Castor oil has not been in brisk request, but sales are reported up to a fair standard for the season at unchanged quotations.

At the new prices referred to last week, lard oils have received considerable attention and are steady at the same time. The trade in cottonseed oils is also marked by activity and orders for fine barrel lots have not been in frequent of late.

The oil cake market continues to afford some interesting features, by virtue of its high range and the utter inability of manufacturers to fill orders. This staple has, with few retrogressions, been going higher by degrees for some months, but it has only been of comparatively recent date that this city has been practically depleted of cake and meal. Such is the fact at this writing and while $23 per ton is the nominal figure for cake here, it is extrememely improbable that a single pound can be obtained, even at a more inviting offer. A prominent manufacturer observed to-day that the product of five times as many mills as are operating here would scarcely suffice to satisfy the present wants of the territory contiguous to St. Louis alone.

White lead is now receiving its share of attention and the business shows a much improved condition. Orders are reaching the corroders and jobbers with encouraging frequency and a spirited inquiry is awakening generally. Prices are the same as heretofore.

In keeping with this improvement, the trade in brushes, colors, mixed goods and the usual accessories to the painting business has developed into a fair movement, which is indicative of a still better situation during the month.

Varnishes are notably active, and the dealers are not disposed to say that their wares are being neglected.

The conditions of the lead market have not been so favorable this week as last. At the beginning, $4 12½ was conceded to represent a firm and unyielding market, but subsequent developments brought the metal down to $4 10 at which figure some sales of no particular significance were made, while weakening influences bore values down to about $4 07½ at the close of business. Buyers were wary towards the end and though the market had a tempting aspect, the holders could make no transfers of lead, at the last moment, even on the low basis named, and the market was left in a weak and dull state.

Relative to drugs, the fluctuations have generally been so unimportant as scarcely to merit any comment. Trade has kept up well and good prices are understood to be the rule on most articles sold by wholesalers.

Opium has been selling freely during the week at prices ranging from $2 30@2 40 per pound, according to quantity.

The demand for quinine is excellent and with better supplies, probably immense quantities could be moved, pending the existence of *la grippe* in the West and South.

Telegraphic advices from Little Rock, Ark., give particulars of a destructive fire which occurred there last Saturday night, and among other damages, causing a loss of $12,000 to Charles T. Abeles & Co., extensive dealers in paints and oils. This old firm has many friends in St. Louis, who wish them well.

MERCURIUS.

CHICAGO LETTER.

[Special correspondence of the OIL, PAINT AND DRUG REPORTER.]

CHICAGO, April 4, 1891.

Outside of an advance of prices for car-lots of raw oil, the linseed oil market for the week exhibits few features of interest. The New York session of the joint committee would seem to have accomplished nothing more than an advance of one cent per gallon—an appreciation which had been at once anticipated and discounted. It is a matter of surprise that producers were not willing to indicate a disposition to advance prices to a still higher notch.

As matters stand to-day, however, the local market may be quoted at 54c. the customary advance for small lots being obtained.

All sorts of conjectures as to the committee's meeting are going the round. The truth seems to be that a tacit agreement has been scrupuously regarded as a "gentleman's contract." In plain English, the combination and the independents are acting in harmony, and are likely so to act until the development of some new feature.

As regards business, trade, on the whole, shows a volume which might be advantageously compared with that chronicled during the corresponding period of 1890. From this time forward inquiry is likely to appreciate. We seem to have reached the outset of the legitimate spring trade. Purchasers at the present time are entirely confined to manufacturers and grinders. The outlook for the future, however, is—to say the least—peculiarly bright.

As regards the future—he would be a fool-prophet who did not credit an advance. The consumptive demand is constantly increasing. Stocks are far from plethoric, and crushers have agreed upon a comparatively uniform policy. The "committee" is likely to hold another session at the call of the chairman, and a further appreciation is entirely within the possibilities of the situation.

Regarding the outlook from the standpoint of the jobber, prognostications stand upon the same footing as the daily weather predictions. Speaking frankly, no one can tell what will happen. Notwithstanding all this, there seems to be an impression that prices will advance through a mutual consensus of the East and the West.

Oil cake is in about the same position as it was a week ago. The treasury of oil cake has been exhausted. Foreign buyers have been persistent purchasers. Chicago crushers have no interest in the result of the market.

The following table shows the direct exportation of cake from Chicago for the periods named:

Week ending—	Pounds.
March 4, 1891.	480,171
April 27, 1891.	269,736
Since Jan. 1, 1891.	7,136,918
Same period, 1890	7,062,320

FLAXSEED.

The week has been, on the whole, rather in active as regards inquiry for cash delivery. It opened with 1,288,449 bushels in store, as against 1,318,392 bushels last week, and 223,779 bushels on the corresponding date of last year. It would seem that the combination has abandoned the market to its own sweet will. It is common gossip here that every influence which once tended toward the control of the market has been withdrawn. In fact, it has been said that there existed a certain combination the influence of which might be felt in the receipts of seed, which is believed to have withdrawn a hand that may, or may not, have been a controlling factor in the past.

The total inspections in for the week ending to-day foot up 165 cars, of which 5 were classed by the official inspector as rejected. Last week the inspected receipts amounted to 132 cars, of which 11 were below contract grade.

The week's withdrawals from store foot up 77,380 bushels, of which all but 1,646 bushels were graded as No. 1. A comparison of this week's inspections with those of the preceding week, exhibits a decided contrast. This week's figures have been given above; last week there were inspected in 87,688 bushels, all of which were graded as contract seed.

The Secretary of the Board of Trade furnishes the following figures relating to the movement for the week:

	Receipts		Shipments	
	1891.	1890.	1891.	1890.
Total	99,320	18,574	64,731	67,313

This week's cash market has been far from being particularly active. Reported sales foot up about 108 cars, at a range between $1 20 and $1 22½. Of course, the figures given above do not actually represent the entire volume of business transacted in Chicago. They represent the only reported transactions made on the floor of change. The speculative inquiry seems to have been reduced to a minimum. The only transactions in futures have been in April and May. Of the first mentioned delivery there were sold 3,000 bushels at $1 20; of May, 26,500 bushels changed hands at about one cent differentiation,

The market seems to have settled according to its own weight. "Bulls and bears," alike, seem to have deserted the floor, and, for the first time in many weeks flaxseed is salable at its own legitimate value.

OLEO OIL

Owing to the fact that one or more of the parties primarily interested in the oleo market have been more or less incapaciated from answering questions, your correspondent finds

QUEEN CITY VARNISH COMPANY
MAKERS OF HIGH GRADE
VARNISHES AND JAPANS,
Established 1845. Cincinnati, Ohio.

JOHN D. DAVIS, Chairman. JOS. H. PHILLIPS, Sec'y & Treas.
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is the BEST substitute for Linseed EVER OFFERED.
is a natural DRYING Oil.
is the ONLY Paint Oil suited to MANUFACTURERS use.
is sold by MERIT, *NOT* MISREPRESENTATION.
W. H. MAGOFFIN, Philadelphia.

it difficult to send you any reliable figures. What he has to say, is founded upon general principles, and based upon the statements of local exporters. The movement seems to be good, and prices at Rotterdam are believed to have shown no particular depreciation. To quote prices would be as absurd as it would be to attempt to guess at the total volume of exportation.

PAINTS.

The anticipations of the manufacturing and jobbing trade, locally considered, seem to have nearly reached their realization. Chicago houses have found the present season far more promising than was that of 1890.

As regards white lead, business remains in about statu quo. While prices are being well ma'ntained, the inquiry seems to be confined within the limits of actual consumption.

As regards dry colors, there cannot be reported any particular change. Quicksilver vermilion appears to be in a little better request than it was a week ago, yet the Western trade seems to prefer substitutes.

The market for mixed paints seems to be very much in the position of a race track in which a free-for-all contest may result in the survival of the fittest. More than once, manufacturers have endeavored to reach a conclusion which might prove mutually advantageous. Practically, the result has been the elimination of every element of mutual reciprocity and the establishment of a market in which every man acts for himself.

DRUGS.

Some of the largest jobbing houses in the local market report an activity of business far exceeding their expectations. In fact, some of them allege that the past week has been the most active, if not the most profitable, known in their experience. Out-of-town buyers are liberal purchasers, and, one and all report a brisk consumptive demand.

Opium and sulphate of morphine exhibit no change.

Manufacturers' agents attempt to obtain higher prices for quinine, but stocks in second hands are of proportions sufficient to checkmate any such laudable disposition.

The consumptive inquiry has not been without its tendency to make the general list very firm. Most of the fluctuations have been in minor articles. Balsam of copaiba has appreciated, jobbers asking 68c.

Calamus root has materially advanced, jobbing yesterday at 70c, an appreciation of 20c during the past week. Owing to the decline in sugar, syrup of rock candy has taken a downward turn. To-day's jobbing price is 65c. If orders are given for either barrels or half barrels, the price of "containers" is included. Rock candy has also depreciated, selling in a jobbing way at 18c.

Turpentine, in single barrels, is moderately active at 44c.

WINDOW GLASS NOTES.

The local market is about as strong as could be expected under existing circumstances. Every local jobber is trying to buy at the lowest price as possible, and to sell at the highest price obtainable. Chicago is the exponent of the entire Western market, yet it is difficult to quote the market even here. Probably 80 & 10 would be the highest price quotable by any local jobber. There does not seem to be any pronounced disposition among the jobbing trade to cut to an extent beyond that sanctioned by manufacturers. At the same time, one is naturally inclined to buy as cheaply as he can, and to turn his purchase into ready cash without any unnecessary delay.

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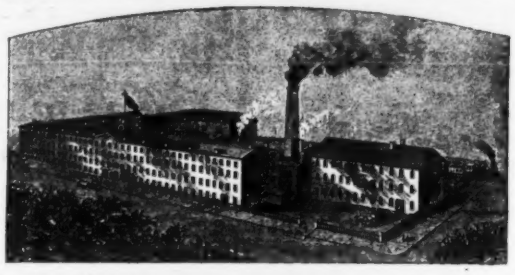

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PAINT MARKET.

Note—*Our prices are for large lots except when otherwise specified, and buyers of small quantities must expect to pay an advance on these figures.*

The prices current will be found on page 41.

TUESDAY EVENING, April 7, 1891.

White Lead, Zinc, Etc.

Pig lead has not been so firm, a reaction having set in soon after our last. Small sales of spot were made early in the week at 4 35c, but later 4 32½c, and then 4 30c was quoted as acceptable, without interesting buyers to any extent. The market closed about steady at 4 30@4 32½c. Messrs. Everett & Post write us from Chicago on the 5th inst.: "The market has been very dull. Locally, consummers bought only sparingly, and the out of town inquiry was light. Early in the week quotations were fairly steady at 4 15c and 4 17½c, but the closing is weaker; 4 15c asked, 4 10c bid. The average price of pig lead in Chicago for the month of March is 4½c, against 3 82½ for the same period last year. At St. Louis the rather incipient "boom" of last week has met with a somewhat serious set back. At the opening the market was quiet at 4½c, but manipulators could not maintain the quotation, and at the close holders are seeking buyers at 4 10c, while only 4 05c and 4 07½c is bid."

White lead is moving quite freely, though not with the snap that is usual at this season. With the advent of Spring weather a decided increase in the demand is expected. A report from Petrolia, Ont., is to the effect that American dry white lead, after an interval of ten years, during which Canada was supplied by Great Britain, is again appearing in that market. This is said not to be due to the fact that prices in the United States are lower than in England, but because the National Lead Trust has a surplus for which Canada affords a convenient outlet, and the stock is offered there at prices just low enough to prevent British competiton. Concerning market values here no change is to be reported. The corroders' quote: 6½c for 12 tons or over; 6¾c for 5 to 12 tons; 6¾c for 1,000 lbs to 5 tons and 7¼ net for quantities less than 1,000 lbs. Terms on lots of 1,000 lbs and over are 60 days or 2½ per cent discount for cash in 15 days from date of invoice. To make either of the above named quantities it is allowable to include any assortment of packages of white lead, red lead or litharge, or all of these articles. No prepayment of or allowance for freight is made, and there are no rebates Dry lead in kegs is quoted at the same prices as lead in oil, but in barrels the quotation is ½c per pound less.

American oxide of zinc continues in brisk demand both for spot and future deliveries With no surplus stock on hand the manufacturers are very firm in their views, still quoting 4½@5c, as to quality and quantity. The demand for French zincs continues fair and prices have undergone no change. We quote: In barrels of 220¼ lbs, 7½c for dry Antwerp red seal, 8½c for dry Antwerp green seal 8½c for dry Paris red seal, and 8½c for dry Paris green seal. The following discounts are allowed to large buyers of one or assorted grades: Ten-bbl lots, 1%; 25 bbls, 2%, and 50 bbls 4%; all 30 days. No discount is allowed on less than 10-bbl lots. For these zincs ground in poppy seed oil, the quotations are 1½c for less than a ton of red seal in drums, and 10c for a ton or over; 11c for less than a ton of green seal, and 10½c for a ton or over. The price in cans is 10½@10¾c for red seal, and 11½@11½c for green seal.

Dry Colors.

The boom in mixed paints which started in Chicago recently is now presumed to be on its way to this city, via Boston, as reports from the latter city would indicate an unusual rush of business from the out of town buyers "who were flooding the city." It is to be hoped they safely reached their homes before the last blizzard struck that section of the country. Trade here is reported by all as being unusually dull for this period of the year, but with the return of pleasant weather outdoor work will be resumed and a corresponding increase in the volume of business may be expected to follow. Values remain steady with the exception of quicksilver vermilion: owing to the decline in the crude material, prices have been reduced. Beyond this few changes are reported.

REDS.

Venetian Red, since the opening of the month trade, has not been as active as dealers could wish still the jobbing trade has been of fair proportions considering the weather which has prevailed for the past month. There have been several arrivals to hand, most of which was sold previously for consumption; also sales of 150 bbls for shipment at $1 10@1 20, as to make, quantity and holder. American makes are meeting with the usual demand incident to this period of the year at prices ranging from $1@1 10, as to quantity, brand and place of delivery.

Orange Mineral—Only a small demand for spot delivery is reported with few inquiries for forward delivery. Values continue steady at 9½@10c for English, 10@12c for French and 8¾@9¼c for American, as to make, quantity and holder.

Red Lead and Litharge—The demand for these articles has been of the usual proportion incident to this period of the year. Small sales are reported for future delivery at prices within the range established by the combination.

Quicksilver Vermilion—As intimated in our last the various makers made another reduction in price; consequently buyers who were waiting until the first of the month before replenishing their stocks have been free buyers at the reduction. The following is the new price list issued by the various makers: In bulk, kegs of 100 lbs. and over, 64c per lb; in bags of 30 lbs. or 50 lbs., 65c per lb; less than a bag, 69c per lb. Terms: 30 days or 1% for prompt cash.

Carmine is without special feature. the demand for the moment being of a jobbing nature. Values for the present are steady at $3 10@3 20, as to quantity and style of package.

Miscellaneous.

Barytes, for prompt delivery, are in light stock, owing to the non-arrival of goods from the source of supply. Consequently the demand, which has been good since the opening of the month, is in excess of the supply. Prices remain steady at our our previous quotations, which are: Superfine, $20@21; German, $22@24; domestic, floated, $31@32; off color, No. 2, $15@16, and No. 3 at $11@13, as to quantity, holder and date of delivery.

China Clay—There have been further arrivals to hand the bulk of which was sold previous to arrival, the balance going into store to wait the opening of canal navigation. The sales comprise 75 tons at prices ranging from $13@17 per ton as to grade, quantity and holder. Southern is in light stock consequently values are held from at $8 50@9 per ton from dock as to quantity and brand.

Chalk—The cargo just to hand was sold previous to arrival at $2 65, but upon examination it was found to be damaged; consequently the buyers declined to receive it, but at the close it was reported a compromise had been made, and the matter was satisfactorily arranged. There was a sale made today of 1,200 tons for prompt shipment by sail at $3, at which the market closes firm.

Terra alba is only wanted in a small jobbing way at the moment, the small stock of high grades procurable enables holders to obtain full prices. French and English are both quoted at 75@85c as to quantity and holder,

DEAN LINSEED OIL CO.

181 FRONT ST. DEAN LINSEED OIL CO. PERFECTLY PURE LINSEED OIL P. O. BOX 474

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BRILLIANT RED LEAD.
Orange Mineral.
LITHARGE.
JOHN T. LEWIS & BROS. CO. THE WHITENESS, FINENESS AND BODY UNSURPASSED WARRANTED PURE WHITE LEAD. PHILADA.
TRADE MARK.
Colors of Superior Quality.
Linseed Oil,
Raw, Boiled and Refined.

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MANUFACTURERS OF
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59 Frankfort St., & 19, 21 & 23 Jacob St., N. Y.
PAINTS FOR GRINDERS' USE.
IMPORTERS OF
English White Lead, Ochres, Umbers, Siennas,
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We claim to have our Paints for Grindersuse of the best quality and most finely prepad

BETTER THAN BARYTES.

Which, like Blanc Fixe, is an artificial product of barytes ore and a

TRUE PIGMENT.

Mixed with zinc oxide, it makes a better paint than pure white lead or any mixture of white lead and other pigments—better, because it works smoother, looks better and lasts longer. So say the host of painters who have used it for two years past.

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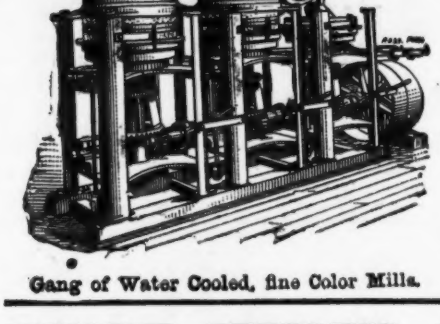

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Is pale in color, a sure dryer and binder, mixes readily in Paint or Oil and will not discolor White Paint or make cloudy, delicate or light tints, as so many dryers do. It is very strong, dries paint hard and firm, does not leave it tacky. Quality guaranteed, a trial will convince you of its merits.

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CORRESPONDENCE SOLICITED.

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An Unchangeable, Fireproof and positively indestructable Brown Metallic Paint,

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DRY, IN OIL, IN JAPAN.

NONE STRONGER FINER PURER

COLORS

PHILADELPHIA and NEW YORK.

with sales reported within the range. Do mestic No. 2 is selling in the usual jobbing way at 45@50c, as to quantity and holder.

Talc—The free arrivals of American goods has relieved the market of the stringency which prevailed at the close of our last. The demand has been fairly active with sales reported at 1@1¼c as to quantity and holder. Imported is held firm at 1¾@1¾c as to quantity.

Whiting and Paris white are both rather slow of sale at the moment, as is usually the case just previous to the opening of canal navigation. When this is announced, then the "Chicago boom" is expected to make its appearance. Sales are reported of 150 bbls gilders at 50@55c, and 200 bbls common at 40@45c, and 105 bbls English cliffstone Paris white at 1@1 10c, as to make, quantity and holder.

Glues.

There is no material change since our last report. The market holds its own on all grades except medium brown hide, which finds few buyers and has no price.

Common brown glues, low grades, are still the most firm, and manufacturers who have any offers to make ask a slight advance. There are, however, no large lots offering.

In white and fine hide grades there is no change to report and our last quotations all around may be taken as fair market prices for to-day.

Glass.

WINDOW GLASS.

There are indications that the American manufacturers of window glass are coming together on the basis of a mutual understanding and there is again a possibility that the consolidation scheme will be put through. As foreshadowed last week one of the largest, if not the largest, manufacturers in the country has advanced his quotations about 20% and others are expected to follow. The situation is discussed at length in our editorial columns. The advance in the West has stiffened prices here somewhat although no quotable change has yet occurred. The consuming demand is increasing though no marked degree of activity is reported.

In French sheet trade is fair though not up to the expectations of importers who had looked for a decided revival of the demand at this time. Prices are unchanged.

PLATE GLASS.

There are no new features to record in connection with the market for plate glass. The demand shows a moderate increase, but the market is far from active. Prices are maintained, the discounts still being 50&10% on glass measuring over ten square feet, and 50, 10&5% on smaller sizes.

The Bradley White Lead Company's works at Brooklyn were damaged by fire last Wednesday morning. The flames which started in the corroding department were controlled before they communicated to the machinery and warerooms of the concern, so that it has not interferred with business. The loss is variously estimated at from $15,000 to $60,000.

New Glass Factories.

A. L. Conger, president of the Diamond Plate Glass Company, writes: "A new tank furnace has been built for the manufacture of window glass at Hartford City, Ind., which is running successfully. Another one is building at Elwood, Ind., for the manufacture of plate glass and expects to make its first cast the last of the present week. Elwood is situated 22 miles below Kokomo, Ind., on the Pan Handle Railroad, and the two factories will cover about 25 acres with substantial brick and stone buildings, and we shall soon be turning out about 14,000 feet of finished plate glass per day, which is the second largest output in this country, or next to that of the Pittsburg Plate Glass Co., of Pittsburg, Pa.

RECENT PATENTS.

449,004. ART OF MANUFACTURING BORAX. Filed March 26, 1890. Issued March 24, 1891.

Claim.—1. The herein described method or process of manufacturing borax from borate of lime and carbonate of soda, which consists in mixing the borate of lime with the carbonate of soda solution, then boiling the mixture in a closed vessel under pressure and keeping the contents of the vessel in constant agitation or circulation until decomposition takes place, and finally drawing off the resulting liquid and solid contents into settlers and crystallizers, wherein the operations of separating the insoluble carbonate of lime product and of obtaining the borate of soda crystals are carried on.

2. In the manufacture of borax from borate of lime and carbonate of soda, the herein described method of treating and operating on the borates, which consists in dividing the whole quantity or charge of borates into separate grades or portions of coarse particles and finer particles, then introducing the charge or quantity composed of the coarse particles into carbonate of soda solution prepared of the full strength that would be required to work the whole charge or quantity of borates at once, then boiling the mixture, and afterward introducing the portion or charge of borates which is composed of the finer particles while the operation of boiling continues, substantially as hereinbefore set forth.

3. The herein described improvement in the art of manufacturing borax from borate o lime and carbonate of soda, which consists in subjecting a solution of these materials to pressure in a closed vessel during boiling and keeping the same in a state of active agitation, substantially as set forth.

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PRINCE'S 72 lbs. Metal in the 100 lbs WARRANTED FIRE PROOF lbs. N.Y. METALLIC PAINT.

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For coloring Mortar, Brick, Tile, etc., equal to Turkey and Florentine Red.

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And Calcutta Nut Oil for White Lead and Zinc Manufacturers.

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NEW YORK ENAMEL PAINT CO.

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STRICTLY PURE

PARIS GREEN

Of Superior Color and Quality.

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Packed in Sheets or Cut to Size.

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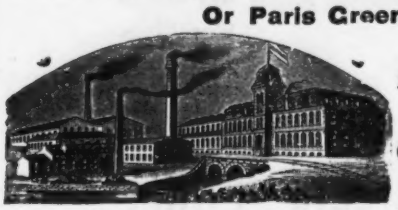
MARSEILLES GREEN

Or Paris Green Substitute.



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Dry Greens, Yellows, Vermilions, Carmines, Lakes, &c.

AND EVERY DESCRIPTION OF

Coach, Car and House Painters Colors.

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Magnesia Green

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S. S. F. PARIS GREEN

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New York City White Lead Works,

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WHITE LEAD,
TINTED LEADS,
MIXED PAINTS,
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Manufacturer of **VARNISHES**

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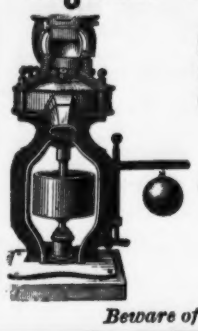
Telephone Call, Williamsburgh 281. BROOKLYN, N. Y.

THE ORIGINAL

Bogardus Patent Universal Eccentric Mill



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SUCCESSORS TO J. W. THOMSON,

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PEERLESS GREEN,

The strongest and most brilliant Green ever produced.

Chemically Pure Yellows and Blues, Oriole Vermilions,

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Quicksilver Vermilions, Carmine.

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WOOD ALCOHOL.

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Paints for Export a Specialty.

P. O. BOX 96. JERSEY CITY, N. J., U. S. A

OIL MARKET.

***Note**—Our prices are for large lots except when otherwise specified, and buyers of small quantities must expect to pay an advance on these figures.*

The prices current will be found on page 41.

TUESDAY EVENING, April 7, 1891.

Vegetable Oils.

Linseed oil is in good shape, the first week of April having been an exceptionally good one, as regards business in both raw and boiled oil, and crushers generally feel that the spring season having at last opened, will compare equally well with other like periods. Goods instead of moving in small jobbing lots are being handled in larger quantities and there is nothing to interfere materially with the general outlook. The painters strike which might have given business a setback, as regards city trade, is not thought to be serious, as the probabilities are that the matter will be settled without trouble or delay. Prices are being fully maintained both for city and Western oil, city being quoted at 57c and Western 55c for raw. Calcutta is still to be had for 62c.

Crude cottonseed oil was dull and rather heavy at the date of our last report in consequence of the fact that refiners were of the opinion that prices were too high as compared with the manufactured product, which at the moment, at least, was not more than steady in price. Buyers held off and receivers having stored some lots, realized that in order to make sales they must accept buyers bids which were 1@2c below what they had been demanding. At the reduced prices, which include the best quality, there has been more doing, but there is no activity. Some small lots that were held for speculation have been offered of late, but they are not of great consequence. While most mills have shut down and the make for the rest of the season will not be great, yet we hear of some round lots held by a few of the mills. The stock, however, in first hands cannot be great, and will all be wanted at a fair price before new oil is made. The sales reported are at very irregular prices, but more steady at the close, with spot goods about all taken—248 bbls nearly prime, 2·4 to 3·10$, at 31c; 150 bbls, 5·2$, at 29c; 100 bbls, 6$, at 24c; 50 bbls, 4·6$, at 25½c; 60 bbls, 3·8$, at 28c; 61 bbls, 5¼$, at 26c; 51 bbls, 5½$, at 26½c: 200 bbls. 5$, at 26½c; 51 bbls. 6·8$, at 24c; 52 bbls, 4$, at 26c; 45 bbls, 6$, at 26c; 100 bbls, 5½$, at 28c; 40 bbls, 3$, at 30c, and 77 bbls tank bottoms at 2½c and smaller lots at 1½@1¾c; 120 bbls Sea Island at 2½c; 75 bbls do. at 26c.

Refined yellow has continued very dull and not a single transaction of consequence has been made for the week. With the exception of the 4,000 bbls referred to last week there are no round lots offering and holders seem confident that later on all their supplies will be wanted at present or higher figures and as a rule do not offer any concessions, but at the moment the export bids, even for small lots, are below the figures that were obtained last month. There have been a number of refusals given at 33c for the usual off quality yellow without resulting in trades and one small transaction was made at 32½c, and offered at this at the close. The fact, however, that export houses are having a number of inquiries, shows that oil is wanted abroad, and very likely after a few weeks, when the present full supply in European markets is somewhat reduced, they will raise their bids to holders' views, which may even be raised somewhat, especially for strictly prime, which is in such small supply, and only can be used in the place of the high grades of olive. The home demand is fair, but not so active since the break in lard. The sales are 1,300 bbls in lots including 150 bbls off yellow at 32½c for export, 150 bbls reddish at 32c for export; jobbing sales of season's prime at 35@36c and prime at 39@40c.

Soap stock is held at 1 5-16c for good quality and 1¼c is bid; sales 700 bbls on p. t.

Our New Orleans correspondent telegraphs this evening as follows: "Crude cotton seed oil 25c; very little prime crude is offering. Trade is retarded by the lack of stock; high waters retard movement of seed. Market dull"

Exports of cottonseed oil from New York by countries:

To	For week ending April 4, 1891. Gls.	Since Sept. 1, 1890. Gls.	Same time last year Gls.
Africa	..	....	10,146
Arg. Republic	4,813	15,141	..
Australia	....	8,208	11,110
Austria	....	458,737	88,494
Belgium	5,057	96,513	71,012
Brazil	1,496	31,540	12,266
Br West Indies	184	40,401	72,250
Br Guiana	1,250	8,108	5,552
Canary Islands	...	599	....
Central America	....	1,282	342
Chili	....	307	250
China	....	....	10
Cuba	....	2,050	577
Dan West Indies	....	3,444	4,566
Denmark	....	1,224	500
Dutch West Indies	....	....	454
Ecuador	....	120	80
Egypt	....	....	...
England	1,555	836,844	502,315
France	....	1,079,814	905,148
French West Indies	1,250	30,038	77,937
Germany	2,600	40,010	179,548
Hayti	....	400	8,524
Ireland	....	....	....
Italy	19,216	285,956	625,110
Japan	....	....	....
Mexico	50	25,302	8,787
Netherlands	....	418,529	1,649,737
New Zealand	....	606	2,279
North America	....	2,749	8,384
Norway & Sweden	....	....	7,500
Peru	....	900	....
Philippine Islands	....	....	....
Porto Rico	....	200	....
San Domingo	....	959	939
Scotland	....	33,525	76,244
Spain	27,694	37,586	9,500
Turkey	..	..	....
U S. Columbia	....	1,366	604
Uruguay	....	50	20
Venezuela	....	9,286	929
Total	65,165	3,579,858	4,434,147

Exports of cottonseed oil from New Orleans by countries:

To	For week ending Apr. 4, 1891. Bbls.	Since Sept. 1, 1890. Bbls.	Same time last year. Bbls.
Austria	..	....	22,772
Belgium	..	300	2,100
England	..	6,600	1,500
France	..	28,500	7,000
Germany	..	2,843	9,850
Gibraltar	..	11,810	2,800
Italy	..	6,435	14,851
Mexico	..	....	..
Netherlands	..	9,200	19,500
Portugal	..	.. ..	....
Spain	..	....	....
Total	....	55,818	81,473

Exports of soap stock from New Orleans by countries

To	For week ending Apr. 4, 1891. Bbls.	Since Sept. 1, 1890. Bbls.	Same time last year. Bbls.
Belgium	..	....	....
Cuba	..	....	....
England	..	7,681	6,696
Germany	..	...	....
Italy	..	1,550	..
Mexico	..	10	40
Spain	..	....	...
Total	....	9,241	6,736

Cocoanut Oils, &c.

Ceylon Cocoanut Oil.—Since our last report the H. G. Johnson, with 450 tons has arrived With the exception of about 50 tons, the balance of the cargo goes into consumption. The demand however, is light, as nearly all of the large buyers are well stocked for the present, the only sales reported are 25 tons ex-Johnson at 6¾c cash, an offer of 6 7-32c was declined for the other 25 tons. The market closes strong at 6¾@7c as to quantity and style of package. For late sail shipments they are asking 6⅝c but no business is reported. For April, May or June sail shipments, sellers' option of delivery, an offer of 6 25@6 30c for 100 tons or more would probably lead to business, although it is claimed by some that at present quotations and rate of exchange it would be impossible to do better than 6 40c. Cochin oil is very dull and slow of sale at 8¾@9c, as to quantity, holder and style of package.

Palm oil, as noted in our last, is a shade firmer both for spot lots and those on way from London. There has been but little trade during the past week with sales of 10 tons of fancy grades of Lagos at 6¼c, and good grades at 5¾@6c, as to quantity and holder.

Olive oil,—The market during the past week has been very dull, only small jobbing sales such as current demands may require are reported as being consumated. For large lots they are quoting 74@75c as to grade and holder while for smaller orders the price ranges from 78@82c as to quantity grade and holder. There has been an arrival of green oil which, so far, has run the "gauntlet of the Custom House" without paying the duty. Shipments on way and forward are obtainable at 67@68c as to quantity and date of shipment, buyers taking risk of duty. Olive soap stock is meeting with more demand, with several sales reported on the spot at 5¾c, while for April to June shipments they are asking 5 60@5 65c as to quantity and holder.

Animal and Fish Oils.

Lard oil is still very firmly held, and the demand, while not large, is said to be fairly good. There may be some prime oil to be had from second hands for about 53c, but the majority of holders are demanding and confident of obtaining 55c for their oil, and in consequence of this feeling there is at present no special demand other than for immediate wants. The condition of this market depends so largely on the price of lard that the fluctuations in the latter are watched with considerable interest and the future price of lard oil will depend mostly on the final average value of lard, when the present activity is over. Prime western is held at 54c.

Elaine has been very dull the past week. The market is firmly held at previous figures.

Saponified is dull and strong; 5c is asked for the best brands, while other brands are offering for little less. There are no features of interest to note.

Cod oil is in the same condition as when we last wrote. It is claimed that there is no oil in first hands along this coast; none in either Nova Scotia or New Brunswick; there is a small supply to be had from New Foundland, but as this cannot be laid down here for less than 50c, it is too expensive an oil for most purposes. The market is quoted nominally at 43@45c.

Crude whale oil is unchanged, with no stock in first hands.

Crude sperm has been very dull also. New Bedford reports the market there as dull and firm, with holders asking 73@75c.

The whalebone market has been somewhat dull. We learn of a sale of 1,100 lbs Northwest at $5 50; this is an advance of 25c per lb over the last sale. Arctic is still held at $6 50.

Mineral Oils.

The business in mineral oils continues fair, though it might be much better, the trade being mostly of a jobbing nature and consumers buying only for immediate wants. Paraffines are reported as rather quiet; there is a little scarcity of the light oils. There seems to be a better supply of the black oils, with not so large a demand.

Oil Cake.

Oil cake is still very scarce, there is no Western cake offering in this market. City cake is quoted nominally at $27, though some would not sell at this price, Calcutta is held at $30, but the most of this is sold at present in the London market.

Wax, Lard, Tallow, Etc.

Paraffine is dull with no change in prices. We learned of a transaction that was nearly consummated last week when the seller withdrew his wax from the market, probably holding off for better prices.

Lard closes to-night at a better figure than last week, city spot being 6 84c. No market in Chicago to-day on account of election.

Tallow closes dull and featureless at 5c.

Spermaceti remains the same as per our last report. The transaction referred to a week ago did not materialize. It is quoted nominally at 34½@38c according to quantity.

Naval Stores.

The market for spirits of turpentine has ruled slightly better during the week, owing to stronger Southern advices. At the moment, however, there is an easier feeling prevailing. The stock in yard to-night is 14,198 bbls. The market closes at 41@41¼c, as to style of package.

Rosins are in better demand so far as the lower grades are concerned, and higher prices are ruling. The higher grades are lower and neglected. The stock in yard to-night is 1,391 bbls.

The following are the closing quotations: Strained, $1 70; good strained, $1 70; E, $1 75 F, $1 85; G, $2 10; H, $2 45; I, $2 50; K, $2 60 M, $2 95; N, $3 25; W G, $3 35; W W, $4 00.

MONTHLY STATEMENT OF NAVAL STORES AT WILMINGTON, N. C.

RECEIPTS.

For the month ending April 1, 1891.

Spirits.	Rosin.	Tar.	Crude.
2,374	37,491	10,154	631

RECEIPTS.

For the month ending April 1, 1890.

Spirits.	Rosin.	Tar.	Crude
2,135	30,413	11,653	1,685

EXPORTS.

For the month ending April 1, 1891.

	Spirits.	Rosin.	Tar.	Crude
Domestic	3,124	340	6,347	847
Foreign	100	32,381	500	....
Total	4,124	32,721	6,847	847

EXPORTS.

For the week ending April 1, 1890.

	Spirits.	Rosin.	Tar.	Crude.
Domestic	2,315	1,653	5,017	608
Foreign	1,243	36,702	3,891	361
Total	3,558	38,355	8,908	1,269

STOCKS.

Ashore and afloat April 1, 1891.

	Ashore.	Afloat.	Total.
Spirits	2,188	—	2,188
Rosin	27,615	5,000	32,615
Tar	9,805	700	10,505
Crude	2,783	—	2,783

STOCKS.

On hand April 1, 1890.

Spirits.	Rosin.	Tar.	Crude.
1,883	15,621	7,969	1,490

SEASON'S RECEIPTS.

Commencing April 1st.

	Spirits.	Rosin.	Tar.	Crude.
April 1, 1891	67,785	366,503	66,321	18,201
April 1, 1890	66,962	287,961	77,479	20,027

SEASON'S EXPORTS.

Commencing April 1st.

	Spirits.	Rosin.	Tar.	Crude.
April 1, 1891	67,480	349,509	63,755	16,906
April 1, 1890	65,679	353,432	74,138	19,067

Mr. Frank L. Young of Boston, is in the city this week, Mr. Young reports business in his city as exceedingly dull.

Meeting of the Proprietary Goods Committee.

The following has been sent out by the Chairman of the Proprietary Committee of the National Wholesale Druggists' Association:

A meeting of the sub-committee appointed by the Conference Committee was held at the office of Dr. D. Jayne & Son on Friday evening last. All the members were present, and also Mr. C. C. Vorhies, representing G. G. Green.

The meeting had been called with a view to perfecting the details of the coupon plan, for the purpose of mailing the circular to the retailers of the United States for a vote.

EDWIN SCHOFIELD,
SUCCESSOR TO
R. H. NUTT'S SON & CO.,
OIL PRESS MAT
AND
BAGGING MANUFACTURERS.
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DAVID E. GREEN
2 Liberty St., New York.
Importer and Dealer in
Gums Arabic, Senegal, Tragacanth
&c.

John W. Greene,
82 Wall St., New York.
AGENT FOR
VOLKART BROTHERS,
OF
Winterthur, Switzerland.
with branch offices under the same style at
BOMBAY, COCHIN (Malabar Coast)
KURRACHEE (Sind), TUTICORIN (Coromandel Coast),
TELLICHERRY (Malabar Coast), [del Coast.)
COLOMBO (Ceylon). MADRAS,
and up-country agencies all through India.
Orders executed by Cable.
Specialties: Ceylon and Cochin Cocoanut Oils, Plumbago, &c.

REED, HALL & HEWLETT,
18 & 20 PLATT ST., NEW YORK.

MANUFACTURERS AND SHIPPERS OF
Animal, Vegetable and Mineral OILS.
Valve, Cylinder, Signal, Machinery, Engine and Lubricating Oils.
Sperm, Lard, Tallow, Neatsfoot, Whale Elephant, Seal, Cod and Fish Oils.
Pure Spanish and Italian Olive Oils.
All grades of Pure Olive Oil Soap for Silk and Worsted Mills, either in bulk, bars or powdered.
Saponified Red and Elaine Oils.
Mineral Wool Oils and Wool Stocks
Castor, Rape, Mustard and Cottonseed Oils
Paraffine Oils, Paraffine Wax and Beeswax.
All kinds of Lubricating and Axle Grease
Tallow, Lard and Cottonseed Grease for Soap Makers.
SOLE EASTERN AGENTS
FOR THE
West Virginia Oil Company
PARKERSBURG, W. VA.
Producers of Pure Natural West Virginia Rock Oils.

ABSOLUTELY PURE OLIVE OIL
FOR MANUFACTURING PURPOSES.
Also finest Salad Oil in Cans and Bottles.
Societe Hygienique Alimentaire,
NO. 1 WATER STREET, NEW YORK

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CORAOPOLIS OIL WORKS

112 Water St., Pittsburgh, Pa.

PRODUCER, SHIPPER and REFINER of PENNSYLVANIA

PETROLEUM

WATER WHITE BURNING OILS. COLD TEST OILS AND STOCKS.

PARAFFINE WAX.

EMPIRE REFINING CO.,

LIMITED.

Refiners and Packers of Petroleum and its Products

IN BARRELS AND CASES.

OFFICES:

26 BROADWAY, NEW YORK.

Works--Newtown Creek, Greenpoint, L. I.

BOSSHARDT & WILSON CO.---LUCENT OIL WORKS.

REFINERS OF

BRADFORD, FRANKLIN and CLARENDON

CYLINDER STOCKS,

Wool Stocks, Bloomless Neutrals, High Viscosity Spindle and Machinery Oils, Cold Test and Summer Black Oils.

LUCENT PETROLATUM, and all other Petroleum Products

OFFICES { 212 S. Third Street, Philadelphia, Pa. | OFFICES { Rue Demarquay 12, Paris, France. | REFINERY { Gibson's Point, Schuylkill River.

Established 1864.

SAMUEL ELDER & CO.

Sole Manuf'rs of the Celebrated

Light Running Axle Grease,

WHEELING, W. VA.

This AXLE GREASE is suitable for any climate; will NOT chill or harden in cold weather or run off the axle in hot weather.

A. F. BATCHELOR & CO.

Drug, Chemical Oil and Manufacturers Agts.

90 Fourth Ave.,

PITTSBURGH, PA.

Consignments and Correspondence Solicited. References:—Keystone Bank and Tradesmens National Bank.

1828 **JAS. CORNER & SONS,** 1890

BALTIMORE, MD.

Spirits Turpentine and Rosin.

LINSEED OIL.

DAVIS OIL CO.,

Produce Exchange, NEW YORK

MANUFACTURERS OF

Lard, Neatsfoot and Tallow Oils,

ALSO MANUFACTURERS OF REFINED ANIMAL OILS.

Sugden Press Bagging Co.

(Successors to THOMAS SUGDEN.)

MANUFACTURERS OF

OIL PRESS CLOTH

FROM WOOL AND CAMEL HAIR.

JAMES BROWN, Agent, LOWELL, MASS

M. W. PHILLIPS,

47 & 49 N. 2nd St,

Philadelphia, Pa.

Importer

SOAP MAKERS' MATERIALS,

Wall Paper Manufacturers' Supplies, Paper Makers' Supplies.

ALEX. McDONALD, PRESIDENT. JAS. McDONALD, V. PRES'T.

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MANUFACTURERS AGENTS FOR ALL PRODUCTS OF PETROLEUM.

CAPITOL CYLINDER OIL.
MAGNETO DYNAMO OIL.

ELDORADO ENGINE OIL.
ATLANTIC RED ENGINE OIL.

The finest grades of Cylinder & Machinery Oils in the market, at extremely low prices, always in stock at our numerous stations. Send for samples.

See Page 21.

SPECIALS

NOTICES *in this column are at the rate of Two Dollars for each insertion—for eight lines or less—All over eight lines, twenty-five cents per line of about seven words. The full amount in cash must accompany all orders.*

EUROPE—CHICAGO (U. S. A.).
Established Chicago house wishes to correspond with English, German and French manufacturers, receivers or shippers of Glue, Gelatine, Shellac and other Gums, Dextrine, Pumice Stone, Schlag Metal, Bronze Powders, Oils and Chemicals; exceptional facilities and references. Address "CHICAGO." this paper.

VALUABLE BUILDING TO LEASE.
The building now occupied by Parke, Davis & Co., 60 Maiden lane, running through to Liberty street, can be had on favorable terms from May 1. It is four stories, with a good cellar, 23 feet front by about 100 deep. This is a most desirable location for the Drug, Paint or Oil business, being very prominent, central and convenient. Apply to JOHN CLAY, on the premises.

WANTED
A gang of good second-hand iron mills for oil colors, say 4 to 8 inch Bench; name maker and size of mills; also a good 30 inch Burr stone mill for oil colors, with two 30 inch mixers. Address N J. W., care of this paper.

WANTED, ON COMMISSION,
A man thoroughly acquainted with the paint and drug trade to sell a fine line of Chamois; a good chance for the right man. Address RELIABLE, care of this paper.

WANT TO BUY
Toilet Soap Plodder, Mill, Press, etc. Give full description and lowest cash price. Address J., 1,521 Marshall st., Philadelphia, Pa.

PARAFFINE SCALE AND WAX.—
Europe. London firm having a good connection among European buyers of high standing wishes to represent some strong manufacturers for the sole sale in Europe. Address "PARAFFINE," this paper.

FOR SALE
One Dean Double Plunger Pump, with 3 inch plunger, 7 inch piston and 10 inch stroke. 1-20 chamber, 18 inch wash filter press, continuous discharge; 1-30 chamber, 18 inch wash filter press, independent discharge, G. H. Bushnell make. All machines but little used and as good as new. For particulars, enquire of THE FERRIC CHEMICAL AND COLOR CO., Worcester, Mass.

ELECTRIC FIXTURES
A lot of electric light stands, sockets and shades for sale cheap, in use only a short time. Can be seen at office of this paper, 72 William St., N. Y.

FILES FOR KEEPING 6 MONTHS
(one volume) of the OIL, PAINT AND DRUG REPORTER now ready. Send one dollar to this office and we will forward by return mail, postage paid.

BINDERS

Holding One Volume (6 months) of the REPORTER will be forwarded by mail on receipt of
ONE DOLLAR.
They are perfectly Simple, any one can use them. Address the
Oil, Paint and Drug Reporter,
72 William St., New York.
A bound volume of the REPORTER is a complete history of the Paint, Oil and Drug Markets for half a year.

HOPKINS, DWIGHT & CO.

COTTON,
COTTONSEED OIL
&
SOUTHERN PRODUCE

COMMISSION MERCHANTS.

Rooms 52, 53 & 54
Cotton Exchange Building

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253-5 PEARL ST. COR. ELM ST. NEW YORK.
OUR PROCESSES
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PHOTO ENGRAVING
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CATALOGUE AND FINE PRESS WORK A SPECIALTY

SOAP-DIES & PRESSES.
SOAP MACHINERY. A. W. HOUCHIN. 11 VINE ST. BROOKLYN, N.Y. CANDLE MACHINERY.
ESTIMATES & CATALOGUES FREE.

AMERICAN VARNISH CANS.

	Gallon.	½	1	2	3	5-10	5-IX
Per 100...	$12 50	18 00	21.00	34 00	47 00	64 00	73 00

SEAMLESS drawn nozzle on all sizes except quarts. Raised top, heavy stock, smooth and well made. Four sides paneled on ½ and 1 gallon.
To order only—Common lapped nozzle, 50c. from list.
Cork-lined tin screw top, add $4.00 to list.

VARNISH SAMPLE CANS.

Pints and quarts have round tops.

	Size—Pints.	½	1	2
Common Flared Nozzle, per 100		$7 50	7 50	9 50
Seamless Drawn	" "		8 00	10 00

To order with spout or faucet top, or lacquered any color.

F. C. WILSON & CO.
Manufacturers,
CHICAGO.

SHEET LEAD

COLWELL LEAD CO.,
63 Center St., New York.
ALSO MANUFACTURERS OF
Chemical Lead Pipe, Lead Wire, Block Tin Worms, etc., for Chemical Purposes.

An opinion from J. G. Johnson, of which I mail you copy herewith, and which was furnished to Dr. D. Jayne & Son at their request, was presented at this meeting.

As you will notice the features of the plan as recommended by the committee, which gave it its main strength, are declared illegal. In consequence of this, the sub-committee did not feel at liberty to incur the expense in going to the retailers of the United States for a vote when it was felt that they could not, in its present shape, recommend to proprietors its adoption.

In addition to this, the members present were impressed with a feeling that the opinions expressed by the retailers since the plan has been made public, both through lettrrs sent to the chairman and to members of the sub-committee and to pharmaceutical journals, indicated plainly that as a class they were not prepared to accept such conditions as it imposes.

In addition to this, the opposition which has manifested itself to the plan adopted by C. I. Hood & Co. from this same quarter, appeared to the members present to indicate an unwillingness on the part of the retailers to give the co-operation which is absolutely essential to making any plan adopted for their protection a success.

For the above reasons it was decided by our sub-committee to acquaint the several proprietors who had favored the committee's plan with the facts of the case and refer the matter back to them for their further action.

As you are aware, a meeting of the Proprietors' Association has been called in New York city for the 23d instant, and your committee will be glad to hear meanwhile what is your further pleasure in the matter.

Regretting very much that we cannot make a more favorable report, the above is submitted in behalf of the sub-committee.

Yours truly,
M. N. KLINE, Chairman.

Bauxite in Kansas.*

†By John C. Bramer, Ph.D., State geologist of Arkansas in *American Geologist*

The Geological Survey of Arkansas has discovered deposits of bauxite in that state, the first considerable ones thus far found in this country. In 1887 a small deposit was discovered in Floyd county, Ga., but that is said to cover "an area of about half an acre" only.

The Arkansas beds occur near the railway in the vicinity of Little Rock, Pulaski county, and near Benton, Saline county. The exposures vary in size from an acre to twenty acres or more, and aggregate something over a square mile. This does not, in all probability, include the total area covered by bauxite in the counties mentioned, for the method of occurrence of the deposits leads to the supposition that there are others as yet undiscovered by the survey.

In thickness the beds vary from a few feet to over 40 feet, with the total thickness undetermined. The average thickness is at least 15 feet.

These Arkansas deposits occur only in tertiary areas and in the neighborhood of eruptive syenites ("granites"), to which they seem to be genetically related. In elevation they occur only at and below 300 feet above tide level and most of them lie between 280 and 270 feet above tide. They have soft tertiary beds both above and below them at a few places, and must therefore be of tertiary age. As a rule, however, they have no covering, the overlying beds having been removed by erosion, and are high enough above the drainage of the country to be readily quarried. Erosive action has removed a part of the bauxite in some cases; but there are, in all probability, many places at which it has not yet been even uncovered.

It is pistolitic in structure, and, like all bauxite, varies more or less in color and in chemical composition. At a few places it is so charged with iron, that attempts have been made to mine it for iron ore. Some of the samples from these pits assay over 50 per cent. of metallic iron. This ferruginous kind is exceptional, however. From the dark-red varities it grades through the browns and yellow to pearl-gray, cream-colored, and milky white; the pinks, browns, and grays being the more abundant. Some of the white varities have the chemical composition of kaolin; while the red, brown and gray have but little silica and iron, and a high percentage of alumina. The analyses given below shows that this bauxite is as good as that of France, Austria, and Ireland, for the manufacture of chemical products for a refactory material and for the manufacture of aluminum by the Deville process. Should there be a market in this country for such material, Arkansas will be able to supply any demand that may be made for it. No use has ever been made of the Arkansas material except for road-building; indeed, it was not known what it was until January last, when the announcement was made by the State geologist in a letter to the governor.

PARTIAL ANALYSES OF BAUXITE FROM ARKANSAS.

	I.	II.	III.	IV.	V.	VI.	VII.	VIII.
Alumina	55·18	57·62	58·62	58·60	48·48	50·22	50·10	49·76
Silica	10·13	11·48	3·48	9·68	1·63	9·68	9·68	8·16
Ferric oxide	6·08	1·63	....	....	....	1·63	1·63	1·63
Vitandic oxide	....	....	....	....	....	....	....	....
Loss on ignition (water)	25·00	29·63	35·68	31·72	49·89	38·47	38·58	40·45

AVERAGE OF FOURTEEN PARTIAL ANALYSES OF BAUXITE FROM FRANCE, AUSTRIA, AND IRELAND.

	Per cent.
Alumina	52·7
Silicia	7·1
Ferric oxide	19·1
Water	16·4

The above analyses made by the State Geological Survey show the composition of average samples.

A British Consul on Florida Phosphates.

British Consul de Fouhlanque, at New Orleans, makes the following report to his government on the phosphate discoveries in Florida:

A short time ago quite an important discovery was made in Florida, which is not only contributing to the wealth of certain portions of the state, but is opening up a large export demand. I refer to the discovery of phosphate lands in Florida. To give some particulars about this interesting discovery, it may be related that about the middle of the year 1888 a gentleman, while digging a well in his yard at Ocala, Florida, found marly earth which was examined and found to be a chalky lime substance not unusual in that portion of the state. It was, however, determined to have the "stuff", properly analyzed, and a parcel of it was sent to eminent chemists of a large western city for analysation. The reports were that the stuff was rich in phosphorus acid and advised if there was much of it to look after it as it was valuable. Other similar scientific establishments in large cities confirmed these reports, whereupon the land from which the sample was taken was searched, and the marly substance was found there in quantities, and also at several other places on adjoining properties. About 8,000 acres of these phosphate lands were immediately purchased in the "phosphate belt," followed by other purchases. A company was soon organized, which secured early in the year about 15,000 acres of choice phosphate lands. Other companies have since been formed which have also secured extensive quantities. I have heard of several vessels loading at some of the ports in Florida nearer to the phosphate beds, and among them some British steamers.

A house is, I am informed, about to be established at Pensacola by parties from the Northern states of this country (and who are operators in fertilizers in Ireland for shipment abroad) for the purpose of putting up a regular factory for the preparation of the crude phosphate into super-phosphate—or whatever the refined article may be termed—for general fertilizing purposes. This phosphate business will, I am informed, add immensely to the circulation of money in Florida, and, of course, thereby be of general good to large portions of the state. The working population, it is supposed, will also materially benefit in the work of excavation, &c., that must go on in connection with the business. The original proprietors, or pioneers, in this new industry will also get rich, no doubt, in addition to the actual possessors of the phosphate lands.

GOODS ON THE WAY TO THE UNITED STATES BY SAIL.

Auckland
TO NEW YORK
Mary S Ames, 5,568 cs gum
Prospect, 34 tons gum
Essex, 543 tons gum

Calcutta
TO NEW YORK.
Sokoto, 583 bgs saltpeter
Marlborough Hill, 3,012 bgs saltpeter
Geo T Hay, 711 bgs cutch, 9,920 bgs linseed, 152 cs indigo, 1,000 pkts turmeric
Sir Robt Fernie, 1,065 bgs saltpeter, 199 cs indigo
Mary L Stone, 1,980 bgs saltpeter, 146 cs indigo, 625 cs castor oil
Bann, 15,688 bgs linseed
Glenericht, 1,339 bgs saltpeter, 348 cs shellac, 100 cs indigo, 250 cs button lac
Holyrood, 2,562 bgs saltpeter, 550 cs shellac, 610 cs indigo, 50 cs button lac
Gov Robie, 50 cs button lac, 167 cs indigo, 90 cs assafoetida
Samuel Skolfield, 1,299 bgs saltpeter
El Capitan, 1,784 bgs saltpeter, 15 cs indigo, 509 bgs turmeric
Wm H Starbuck, 1,348 bgs saltpeter, 1,000 bgs cutch, 82 cs indigo
Loch Carron, 3,306 bgs saltpeter, 50 cs button lac, 96 cs indigo

TO BOSTON
Jacob E Ridgway, 655 bgs saltpeter, 167 cs indigo
Avonia, 152 cs indigo, 80 cs assafoetida

Hong Kong
TO NEW YORK
Kambira, 100 pcls cassia
Sea Witch, 664 cs cassia, 100 cs aniseed

Colombo
TO NEW YORK
Bay of Bengal, 395 tns cocoanut oil, 750 tns plumbago

Galle.
TO NEW YORK.
Aconcagua, 2,514 cwt oil cocoanut, 772,599 ozs oil citronella, 4,850 cwt plumbago

Singapore
TO NEW YORK
Governor Goodwin, 3,809 bls gambier, 7,995 pcls pearl tapioca, 1,281 pcls flake tapioca, 227 pcls gum copal; also, 11 pgs essential oils, 363 cs gum copal and 278 dms balsam, transhipped
Antioch, 3,400 bls gambier, 840 pcls sago flour, 430 pcls tapioca flour, 1,009 pcls flake tapioca, 3,630 pcls pearl tapioca, 1,369 pcls black pepper, 795 pcls gum copal, 31 pcls gum benjamin, 11 pcls gamboge, 55 cs essential oil
Heinrich, 2,900 bls gambier

TO BOSTON
Sachem, 2,530 bls gambier, 1,3.3 pcls sago flour, 420 pcls tapioca flour, 420 pcls cube gambier, 85 pcls pearl sago, 430 pcls pearl tapioca, 252 pcls flake tapioca, 841 pcls black pepper, 421 pcls gum copal
Wm Hales, 2,500 bls gambier

West Coast South America
TO HAMPTON ROADS
Daniel Barnes, 43,936 qtls nitrate soda
H J Libby, 18,600 qtls nitrate soda
Kingsport, 40,000 qtls nitrate soda
Navarch, 35,000 qtls nitrate soda
Annie, 18,800 qtls nitrate soda
Independence, 27,000 qtls nitrate soda
Jane Fairlie, 12,600 qtls nitrate soda

RECORD OF VESSELS.

PORT & NAME.	SAILED.	LAST REPORTED.
Auckland.		
Mary S Ames	Jan 21...	
Prospect	Feb 31...	
Essex	Feb 24...	
Calcutta.		
Sokoto	Dec 13...	
Maribo'h Hill	Dec 18...	
Geo T Hay	Dec 27...	
Sir R Fernie	Feb 14...	
Mary L Stone	Jan 14...	
Bann	Jan 17...	
J E Ridgway	Jan 9...	
Glenericht	Jan 16 ..	
Holly Rood	Jan 26...	
Gov Robie	Jan 29...	
Avonia	Feb 9...	
S Skolfield	Feb 19...	
El Capitan	Feb 23...	
W H Starbuck	Feb 24...	
Loch Carron	Feb 28...	
Colombo.		
Bay of Bengal	March 20	Via Cochin.
Pt Galle.		
Aconcagua	Jan 21...	Put back Feb 11.
Hong Kong.		
Kambira	Jan 5...	
Sea Witch	Dec 31...	
Singapore.		
Gov Goodwin	Dec 6...	
Sachem	Jan 15...	
Antioch	Jan 23...	
Wm Hales	March 8.	
Heinrich	Feb 17...	
W. C. South America.		
Daniel Barnes	Dec 28...	
H J Libby	Dec 16...	
Kingsport	Feb 9 ..	
Navarch	Jan 25...	
Annie	Jan 3....	
Independence	Jan 31..	
Jane Fairlie	Dec 24...	

Tide Water Oil Company

Principal Office

12 Broadway, New York.

Branches:

BOSTON, CHARLESTON, ATLANTA,
PHILADELPHIA, SAVANNAH, MACON.

MANUFACTURER OF ALL

Petroleum Products

PARAFFINE AND LUBRICATING DEPARTMENT

OFFER FOR SALE

PARAFFINE OILS, PARAFFINE WAX,
GREASES, PARAFFINE CANDLES

Cold Test Oils and Stocks a Specialty.

DOMESTIC DEPARTMENT

OFFER FOR SALE

WATER WHITE OIL, STANDARD WHITE OIL,
300° OIL, NAPHTHA.

DO NOT HESITATE to handle Vapor Stoves for fear that the proper fuel therefor cannot be readily obtained. In order to accommodate this growing industry, **Pratt's Deodorized Stove Gasolene** is now put up not only in barrels, but also in half-barrels and in 5-gallon cans, these latter being packed in cases for protection in shipping. These goods will be furnished wherever desired, either direct or through our Agents, and in quantities to suit the consumer.

It should be noted that the barrels are painted green, on one end of which appears a colored paper label with lettering similar to accompanying cut. This brand of goods is made in accordance with instructions of the Vapor Stove manufacturers, and hence can be relied upon in all cases, and will neither smoke, gum the burner, nor emit disagreeable odor.

As it can be had at a price which will enable its being retailed at a handsome profit, dealers in Vapor Stoves will find it greatly to their advantage to handle the fuel also.

PRATT MANUFACTURING COMPANY,

No. 26 Broadway, New-York City.

Proprietors "PRATT'S ASTRAL OIL."

PETROLEUM MARKET.

TUESDAY EVENING, April 7, 1891.

There is nothing of sufficient interest in the market to call for more than a passing comment. The amount of business accomplished during the week would not in times past occupy the attention of the brokers on any one of the exchanges probably ten minutes, and the extreme range of prices would have been recorded at the same moment in different parts of the pit. Now all this is changed and fractions are looked into, worthy of the interest manifested in whole cents formerly. The report of field operations has been received during the week, and it shows a slight increase for March over February. The National Transit Company's statement will be due in a few days and it is expected to show also that stocks are being piled up. The field report for March is as follows: Wells completed, 275; rigs, 218, and drilling wells, 401; new production, 7,751 bbls. With finer weather near at hand, renewed activity is looked forward to throughout the oil country. The results for March show an increase over February in every direction save in the number of drilling wells, which is more than offset by an increased number of rigs. The southwestern territory is still in the lead, and its limits are being gradually extended in Southeastern Ohio and West Virginia. The coming summer will witness the best efforts of the wildcatter to discover fresh fields to supply the demand for new territory. The northern field second crop wells keep up their former pace, but they figure lightly in the report. In the Venango-Clarion division no large wells were discovered during March, and the new production is off about 100 bbls from February, while Butler and Armstrong wells increased their output by 700 bbls, though there is a decline in new operations in that territory. The report indicates that Washington County is fast dropping to the rear as supplying existing portions of the Southwest, but its place has been more than filled by Wildwood, Crafton, Mannington and other white sand pools. The gushers in these sections were not so numerous in March as they have been in the past, but the pools are far from being exhausted and something new and unexpected is frequently developed. In a general way the March report may be regarded as a favorable one for the producer. The increase in new production is not sufficient to make good the decline in the wells of the southwest that have been drilled during the previous months and the increase in new work must not be considered excessive.

WELLS COMPLETED FEBRUARY, 1891.

Field.	Wells com.	Production.	Dry.
Bradford & Alleghany	23	130	2
Middle Field	23	178	2
Venango & Clarion	55	257	3
Butler & Armstrong	61	1,303	3
Southwest District	81	4,750	31
Total	243	6,618	41

WELLS COMPLETED MARCH, 1891.

Field.	Wells com.	Production.	Dry.
Bradf'd & Alleghany	29	180	1
Middle Field	35	394	4
Venango & Clarion	48	155	9
Butler & Armstrong	52	1,613	7
Southwest District	111	5,429	31
Total	275	7,751	52

Increase in number of completed wells, 34.
Increase in new production, 1,133 bbls.
Average of January wells, 51 bbls.
Average of February wells, 27 bbls.
Average of March wells, 35⅛ bbls.

RIGS UP AND DRILLING FEB. 28, 1891.

Field.	Wells drill'g.	New Rigs.	Total.
Bradford and Alleghany	33	20	53
Middle field	22	7	29
Venango and Clarion	40	36	76
Butler and Armstrong	93	48	141
Southwest District	222	84	306
Total	410	195	605

RIGS UP AND DRILLING MAR. 31, 1891.

Field.	Wells drill'g.	New Rigs.	Total.
Bradford and Alleghany	36	28	64
Middle field	27	10	37
Venango and Clarion	50	37	87
Butler and Armstrong	80	52	132
Southwest District	208	91	299
Total	401	218	619
Decrease in drilling wells			9
Increase in rigs			23
Net increase			14

The transactions during the past week show a decrease over those of the previous week, the sales footing up only 82,000 bbls against 314,000 bbls for the preceding week. The clearances of the local exchange amounted to 1,344,000 bbls, against 178,000 bbls during the preceding week. The total clearances reported for the other three exchanges amounted to 2,652,000 bbls, against 1,810,000 bbls for the preceding week. The highest price of the week was recorded on Wednesday when 73¼c was reached. The lowest point of the week was 72¼c, and was touched on Wednesday. The opening price last Wednesday was 73¼c and the close this evening was at 73¼c, showing a loss of ¼c as the result of the week's trading, while the extreme range of fluctuations for the week was 1c. The highest price for Buckeye certificates was 18c. in which, however, there was no trading.

The amount of daily sales and total for the week follow:

Date.	N. T.	Buckeye.
Apr. 1	10,000	....
" 2	20,000	....
" 3	8,000	....
" 4	15,000	....
" 6	26,000	....
" 7	3,000	....
Total for the week	82,000	....

Following is given the opening, highest, lowest and closing figures for each day, in tabulated form for comparison:

National Transit.

	Opening.	Highest.	Lowest.	Closing.
Apr. 1	73¼	73⅛	72⅛	72¾
" 2	72¾	73¼	72¾	73¼
" 3	73⅛	73⅛	73⅛	73⅛
" 4	73	73	73	73
" 6	73	73⅛	73	73⅛
" 7	73¼	73¼	73¼	73¼

Buckeye.

Apr. 1	..	..	..	..
" 2	..	..	..	..
" 3	..	..	..	..
" 4	..	..	..	..
" 6	..	..	..	..
" 7	..	..	..	..

The total clearances during the week at the several petroleum exchanges foot up as follows:

New York		1,388,000
Oil City	940,000	
Pittsburg	000,000	
Bradford	2,176,000	
		3,116,000
Total		4,504,000

The price for refined for export, both in barrels and cases, has ruled steady at 6 90@7 20c in bbls (bulk, 4 65c), and cases, 9 30c, with a fair business reported, cargoes for some tank steamers having been purchased, in addition to several cargoes for sailing vessels. The sales aggregated fully bulk and bbls, 100,000 bbls. Freight rates are still low, and the prospect is good for a revival of business in the near future in barreled oil for the Continent and Baltic. There have been several case cargoes sold during the week for the Far East, principally on the basis of our quotations, the sales footing up about 250,000 cases.

Crude in bbls has sold fairly well for export, the price having been reduced to 6 85c to-day, and some few cargoes were also sold in bulk, the price for which was lowered to 4 30c.

Naphtha has been quiet for export and is unchanged from 6 75c, with a few lots sold as part cargoes for ships loading refined petroleum.

Residuum is dull and nominally quoted at 4@4½c, f o b, for Western, while barrels are 6½@7c.

Closing Quotations.

CRUDE.

National Transit Certificates ₽ bbl.	73½@73¼
In bbls ₽ gal.	6 90
In bulk	4·30
In cases	9·30
Residuum, bbls, for export 18@22°	6½@6¾

REFINED, IN BARRELS.

Cargo lots, 70° Abel test ₽ gal.	6·90@7·20
Philadelphia loading	6·90@7·20
Baltimore loading	6·90@7·20
In bulk	4·65
0 bbl lots, f. o. b. or on dock	8 @8½
10 bbl lots f. o. b. or on dock	8½@8⅝

HIGH TEST OILS—JOBBING LOTS.

110 fire test, S. W ₽ gal.	8 @8½
120 fire test, S. W	8½@8⅝
120 fire test, S. W	8½@8¾
150 fire test, W.W	8¾@9¼
300 fire test	10½@11¼

REFINED IN CASES, 110 FIRE TEST.

Two-five, low screw, cargo lots	9·30
5,000 to 10,000	9·40
1,00 to 5,000	9·50
700 to 1,000	9·60
400 to 700	9·70
300 to 400	9·80
200 to 300	9·90
100 to 200	10·10
Under 100	11·10

NAPHTHA AND GASOLENE.

Naphtha, crude, cargo lots, 68@72 deg	6·75
Naphtha, crude, car lots, 68@72 deg	@7·50
Naphtha, crude, 70 deg	8 @9
Sweet, 63 deg	8¾@9¼
70 deg	9 @10
76 deg	9¾@10¾
Gasolene, 8 deg	13 @15
86 deg	15 @17
90 deg	18 @20

EMPTY PETROLEUM BARRELS.

Cargoes, spot	$1 08 @1 10
Domestics, on dock	1 02½@1 05
Subject to inspection	1 05 @ —

Petroleum Statistics.

RUNS—TOTAL AND AVERAGE.

	Day.	Total.	Av'ge
Mon. Mar. 30	122,493	2,196,292	73,230
Tues. " 31	119,702	2,315,994	74,709
Wed. Apr. 1	65,088	65,088	65,088
Thurs. " 2	72,767	137,855	68,928
Frid. " 3	78,293	216,148	72,046
Sat. Sun. 4&5	89,667	305,815	61,163

	1889.	1890.	1891.
January	1,526,161	2,108,248	2,359,053
February	1,318,800	2,055,424	2,345,913
March	1,622,230	2,313,189	....
April	1,643,610	2,328,870	....
May	1,809,098	2,378,382	....
June	1,817,530	2,370,000	....
July	1,956,534	2,524,206	....
August	1,973,119	2,514,968	....
September	1,871,160	2,584,949	....
October	1,985,333	2,750,698	....
November	1,919,030	2,575,941	....
December	2,076,907	3,626,035	....
Year	21,519,502	29,130,910	....
Average	1,793,292	2,427,574	2,602,48

Buckeye.

	Day.	Total.	Av'ge
Mon. Mar. 30	61,556	1,188,096	39,603
Tues. " 31	61,668	1,249,764	40,315
Wed. Apr. 1	26,850	26,850	26 850
Thurs. " 2	32,828	59,678	29,838
Fri. " 3	40,601	100,279	33,426
Sat. Sun. 4&5	44,845	145,125	29,025

	1889.	1890.	1891.
January	973,980	683,750	1,241,154
February	800,828	622,799	1,147,947
March	830,559	676,175	....
April	845,377	842,237	....
May	932,067	887,590	....
June	843,844	916,288	....
July	805,744	1,105,884	....
August	968,449	1,149,877	....
September	875,201	1,289,577	....
October	850,077	1,342,158	....
November	774,073	1,215,900	....
December	755,652	1,186,434	....
Year	10,255,851	11,918,729	....
Average	854,654	993,227	1,194,550

DELIVERIES—TOTAL AND AVERAGE.

	Day.	Total.	Av'ge
Mon. Mar. 30	65,857	1,937,338	64,578
Tues. " 31	69,898	2,008,236	64,620
Wed. Apr. 1	55,111	55,111	55,111
Thurs. " 2	68,357	123,468	61,734
Frid. " 3	41,469	164,937	54,979
Sat. Sun. 4&5	75,929	240,866	48,173

	1889.	1890.	1891.
January	2,354,570	2,679,206	2,468,390
February	2,286,812	2,181,209	2,169,408
March	2,283,645	2,182,231	....
April	2,242,546	2,346,823	....
May	2,257,175	2,486,978	....
June	2,276,304	2,499,538	....
July	2,628,065	2,684,465	....
August	2,635,592	2,642,787	....
September	2,580,052	2,719,207	....
October	2,790,090	2,772,935	....
November	2,438,651	2,703,755	....
December	2,699,422	2,729,505	....
Year	29,472,864	30,628,739	....
Average	2,457,739	2,5 2,395	2,318,889

Buckeye.

	Day.	Total.	Av'ge.
Mon. Mar. 30	24,822	740,381	24,679
Tues. " 31	48,733	789,114	24,455
Wed. Apr. 1	23,900	23,900	23,900
Thurs. " 2	48,430	72,339	36,165
Frid. " 3	21,638	93,968	31,323
Sat. Sun. 4&5	56,410	150,378	30,076

	1889.	1890.	1891.
January	89,954	156,085	968,887
February	80,554	111,604	837,928
March	98,350	123,125	....
April	127,200	115,222	....
May	109,850	169,662	....
June	98,176	207,036	....
July	91,513	170,427	....
August	93,408	265,074	....
September	124,550	513,836	....
October	144,997	723.743	....
November	146,867	657,614	....
December	145,307	907,548	....
Year	1,350,734	4,120,976	....
Average	112,561	343,414	903,407

CHARTERS—TOTAL AND AVERAGE.

	Day.	Total.	Av'ge.
Mon. Mar. 30	25,000	1,104,230	36,807
Tues. " 31	17,857	1,122,087	36,196
Wed. Apr 1	9,524	9,524	9,524
Thurs. " 2	28,571	38,095	19,04
Frid. " 3	4,762	42,857	14,286
Sat. Sun. 4&5	35,714	78,571	15,714

	1889.	1890.	1891.
January	1,399,557	850,753	1,276,216
February	1,120,238	782,217	1,640,444
March	1,270,863	648,885	1,122,087
April	874,753	1,416,460	....
May	1,433,764	1,042,640	....
June	1,256,666	844,711	....
July	1,892,547	1,304,953	....
August	1,483,761	1,479,290	....
September	1,235,501	1,527,598	....
October	1,259,517	1,277,757	....
November	1,056,340	863,697	....
December	729,676	1,043,371	....
Year	15,063,171	13,086,331	....
Average	1,255,264	1,090,527	1,346,249

CHARTERS FOR THE WEEK.

The total charters for refined in barrels and cases, crude in barrels and cases, naphtha, &c., during the week ending April 6, and from Jan. 1, were as follows:

	Week.	Year.
Refined, bbls	64,300	1,485,700
Refined, cs	86,000	3,322,00
Crude, bbls	39,000	420,000
Crude, cs	....	440,000
Naphtha, bbls	8,000	62,500
Residuum, bbls	....	....
Lubricating, bbls	....	7,000
Bbls., crude equivalent	175,792	3,966,409

CLEARANCES FOR THE WEEK.

During the week ending April 6, and since Jan. 1, the clearances of petroleum, in gallons, from the port of New York were as follows:

	Week.	Year.
Refined	3,131,573	75,646,529
Crude	2,512,432	11,139,189
Naphtha	418,500	1,758,093
Residuum	....	....

EXPORT STATISTICS.

The following table shows the total exports from the port of New York and from the United States, reduced to crude equivalent, in gallons, for the week ending April 6; also the total shipments to date, with comparisons with 1890:

From N. Y. for week ending April 6	7,037,357
Total from N. Y. from Jan. 1, 1891	111,685,063
Same period last year	82,371,261
Increase	29,312,802
From U. S. for week ending April 6	7,432,250
Total from U. S. from Jan. 1, 1891	157,124,374
Same period last year	115,148,536
Increase	41,975,838

TOTAL EXPORTS FROM DIFFERENT PORTS.

	1891.	1890.
New York	111,685,063	82,371,261
Philadelphia	40,098,648	30,327,796
Baltimore	4,768,429	1,604,000
Boston	472,703	777,053
San Francisco	129,531	38,373
New Orleans	....	29,453
Grand total	157,124,374	115,148,536

CAPACITY OF VESSELS LOADING.

The following table gives the capacity of the vessels loading petroleum at the ports of New York, Philadelphia, Baltimore and Boston on April 4:

	NEW YORK. Bbls.	NEW YORK. Cases.	PHILADELPHIA Bbls.	PHILADELPHIA Cases.
Refined	....	....	....	....
Crude	....	....	....	....
Naphtha	....	....	....	....
Total	....	....	....	....

	BALTIMORE. Bbls.	BALTIMORE. Cases.	BOSTON. Bbls.	BOSTON. Cases.
Refined	....	....	....	....
Crude	....	....	....	....
Naphtha	....	....	....	....
Total	....	....	....	....

Foreign Statistics.

REFINED QUOTATIONS.

	Antwerp.	Bremen.	London
Wed. Apr. 1	—@16¾	6.25	5¾@—
Thur. " 2	—@16¾	6.35	5¾@—
Fri. " 3	—@16¾	6.40	5¾@—
Sat. " 4	—@16¾	6.40	5¾@—
Mon. " 6	—@16¾	6.40	5¾@—
Tues. " 7	—@16¾	6.40	5¾@—

STOCKS, RECEIPTS AND SHIPMENTS.

The statistical situation at the seven principal continental ports on Mar. 14 was:

	1891.	1890.
Stock, Mar. 20	485,981	315,513
Afloat "	227,914	149,406
Loading "	109,300	68,500
Total	823,195	533,419
Receipts Mar 7, to Mar 14, '91.	93,780	147,568
Rc'ts July 1, '90, to Mar 14, '91.	3,539,967	3,416,985
Shipments Mar 7, to Mar 14, '91.	71,143	70,498
Shp's July 1, '90, to Mar 14, '91.	3,836,173	3,834,087

Petroleum Charters.

Following is a list of vessels chartered and loading or to load petroleum at New York, Philadelphia, Baltimore and Boston. Quantities refined in bbls., unless stated otherwise

NEW YORK.

Oct 27
It sh E Raggio, Shanghae, 30c ..... cs 80,000
Jan 23
Br sh Hilaria, Shanghae, 28c ..... cs 65,000
Feb 10
Br sh Frankistan, Japan, 24c ..... cs 80,000
Feb 14
Br bk Simla, Japan, p t ..... cs 80,000
Feb 27
Am sh Nancy Pendleton, Hong Kong, 22c ..... cs 55,000
March 4
Br bk Zebina Goudy, Japan, 22c ..... cs 40,000
March 6
Br sh Queen of Scots, Calcutta 16c, Chittagong 18c ..... cs 50,000
March 10
Br shp Cuth Japan, 22½c ..... cs 60,000
March 11
Am bk Normandy, Zanzibar, p t ..... cs 45,000
Br bk J I Smith, Rotterdam, 1s 6d 7,500
March 12
Br bk Western Belle, Hong Kong, 22c ..... cs 40,000
March 13.
Am sh State of Maine, Hong Kong, 22c, Shanghae, 27c ..... cs 57,000
Am sh Luzon, Shanghae, 26½c ..... cs 50,000
Br sh Lucania, Saigon, 30¾c ..... cs 70,000
March 16.
Br str Monkseaton, China, p t ..... cs, 15,000
March 17
Br sh Soudan, Shanghae, 27c ..... cs 70,000
Br sh Slieve Roe, Japan, 22½c ..... cs 65,000
March 19
Doh bk Thorbecke VII, Java, 19½c ..... cs 36,000
Br sh Kistna, Rangoon, 16c ..... cs 80,000

March 20
Brstr Guy Mannering, China & Japan, p t.....cs 20,000
March 23
Ger sh Georg, Hamburg, 1s 6d 8,000
March 24
Br bk Ontario, B Channel, 2s..... ...nap 5,000
March 25
Br shp Erin's Isle, Liverpool, p t... 11,000
Br bk Harriet Hickman, Baltic, 2s 3d.... 5,000
It bk Teresa Accame, Java, 19c, 20c....cs 35,000
March 26
It bk Madre e Figlio, Penarth, 2s 3d..... 2,400
Br shp Kinrose, Liverpool, 1s 6d.....nap 9,000
March 28
Br sh Sapphire, Sweden, 2s 1¼d..... 8,000
April 3
Br bk Bristol, London, 1s 6d..... nap 8,000
Belg str La Fiandra, Antwerp, tank,.... 18,000
April 4
It bk Colombo, Exmouth, 2s 3d.. 3,000
April 6
Br str Hampstead, Shanghae, 29c.....cs 70,000
Ger shp Atlantic, Antwerp, 1s 9d..... 8,500
April 7
Rus bk Birgir, Marseilles, 1s 9d.....cde 5,000
It bk Ciampa Emelia, Baltic, p t.... .. . 5,000
It bk Consettina, Buenos Ayres, 23c...cs 16,000

PHILADELPHIA
Feb 10
Br shp Godiva, Japan, 25c.....cs 80,000
Mar 4
Am sh Wm J Rotch, Japan, 23c..... cs 65,000
March 22
It bk Olivia Speciosa, Cagliari, 11c.....cs 23,000
March 24
Fr str Tancarville, Havre, tank.....cde 20,000
March 25
Nor bk Winona, Danish port, p t.. 4,000
It bk Giovanni, Lisbon, 2s 2d..... 3,000
Port bk Propheta, Oporto, 2s 4½d..... 3,500
It bk Bartolomeo Gagliardo, Italy, p t.. 3,000
March 26
Nor bk Eimar, Havre, p t.....cde 5,000
Nor bk Hermod, Passages, 16c.....cs cde 17,000
March 28
Br str Liscard, Greece, 18c..... .....cs 55,000
Am shp Grandee, Japan—China, p t...cs 50,000
Br shp Trafalgar, Japan—China, p t.. cs 70,000
Port bk Commercio, Lisbon, p t. 3,000
March 31
Br sir Prudentia, Bremen.....cde 21,000
April 1
Br str Petrirno, Fiume..... ... ...cde 15,000
April 7
Br str Prudence, Rouen. tank..... .cde 19,000
Br str Plesk, Italy, tank..... 21,000

BALTIMORE
April 2
Nor bk Magnolia, Baltic, 2s 1¼d..... .. 6,000
April 7
Nor bk Lufra, Elsinore, 2s 3d@3s 4d direct 2s 3d f o b..... 2,800

Clearances of Petroleum.

Following are the clearances of petroleum from the ports of New York, Philadelphia Baltimore, Boston and San Francisco on the dates named. Refined, unless otherwise specified:—

NEW YORK
March 30
Br str Manhattan, Liverpool. 1,400,000 gls bulk
Span str Panama, Carthagena, 100 cs
Ger sh Theodor Fischer, Liverpool, 2,750 bbls. 6,091 bbls naphtha
Am bk B Webster, Adelaide, 3,800 cs
Nor bk Kjartan, Montevideo, 4,225 cs
March 31
Am str Cienfuegos, St Jago, 2 bbls, 10 cs
Am str Cienfuegos, Nassau, 1 bbl, 10 cs
Br str St Oswald, Shanghae, 400 cs
Br str Alps, Trinidad, 650 cs, 400 gls, nap
Br str Alps, Grenada, 50 cs
Br str Alps, Cd Bolivar, 10 cs
Br str Trinidad, Hamilton, 86 bbls, 13 cs
Nor bk Galathea, Adelaide, 10,925 cs
April 1
Am str City of Para, Colon, 245 gls
Br bk Assyria, Yokohoma, 45,000 cs
Br bk Assyria, Hiogo, 292 cs
Nor bk Alice, Stockholm, 1,916 bbls
Nor bk Alice, Stockholm, 4,280 bbls, nap
Nor bk Ararat, Danzig, 2,631 bbls
Nor bk Habil, Fremantle, 7,500 cs
Nor bk Habil, Nelson, 3,325 cs
Br sch Mineola, Aux Cayes, 100 cs
April 2
Span str Panama, Pto Cabello, 310 cs
Span str Panama, La Guayra, 250 cs
Span str Panama, Santiago, 5 cs
Span str Panama, Cartagena, 20 cs
Am str Orizaba, Havana, 100 cs
Nor str Johannes Brun, Nassau, 27 bbls, 91 cs
Am bk Emma T Carroll, 39,300 cs
April 3
Br str Miranda, St Johns, N S, 50 bbls
Belg str La Flandre, Antwerp, 920,000 gls, bulk
Ger sh Anna, Bremen, 7,636 bbls, nap
Br bk Vale Royal, Jamaica, 720 cs
Ital bk Carmela C, Plymouth 2,632 bbls, 750 bbls. nap
Am bg Daylight, Guadeloupe, 500 cs
April 4
Am str Ailsa, Carthagena, 280 cs
Am str Ailsa, Savanilla, 1 bbl
Am str Ailsa, Port au Prince, 29 cs
Am str Ailsa, St Marc, 15 cs
Am str Ailsa, Jeremie, 61 cs
Am str Ailsa, Hayti, 25 cs
Br str St Oswald, Shanghae, 50,200 cs
Br str St Oswald, Yokohama, 5,000 cs
Aus bk Lav, Konigsberg, 4,641 bbls
Br bk Retriever, Harbor Briton, 51 bbls, 25 cs
Nor bk Figaro, Konigsberg, 6,325 bbls

SAN FRANCISCO
March 16
Am str C of New York, Cent America, 133 cs
Am str C of New York, Mexico, 85 cs
March 18
Am bk H W Almy, Apia, 1,070 cs
March 19
Am bk John Worster, Sydney, 10 cs nap
March 21
Am str C of Peking, China, 6 cs

BOSTON
March 24
Br str Ethelred, Port Antonio, 150 cs
March 31
Br str Yarmouth, Yarmouth, 25 bbls
Br sch Geo M Warner, Plympton N S, 2 bbls
April 1
Brig Eugene Hale, Surinam, 1,500 cs
April 3
Am sch Charles Morford, Cayenne, 225 bbls
Am sta Yarmouth, Yarmouth, 10 bbls
Bg Sepete, St Pierre, 15 bbls

PHILADELPHIA
March 30
Str Helgoland, Goestemunde, 1,100,000 gls, bulk
April 1
Sh Oneota, Dunkirk, 6,148 bbls cde
Sh Paramita, Hiogo, 55,500 cs
Bk Bremerhaven, Stettin, 6,586 bbls
Bk Castello Dagone, Cagliari, 29,520 cs
April 2
Str Petriana, Fiume, 604,004 gls, bulk

Concentrated Essential Oils of Lemons. Limes, Etc.*

BY ARTHUR A. BARRETT.

In bringing under your notice this evening the subject of concentrated essential oils, I I think it will be well to pass in rapid review the state of our knowledge of essential oils, and more particularly its recent development.

As the subject is rather an extensive one I have limited myself to the oil of lemon and limes. These oils are of considerable commercial importance, and though our friends from Widnes and St. Helens whom I see here to-night may think the subject far less interesting than sulphuretted hydrogen and hydrochloric acid, and beneath their notice, yet the total value imported of the two oils together is very considerable.

Until quite recently it was laid down in our manuals of chemistry that many essential oils were identical in composition with oil of turpentine and chemically indistinguishable from it. Gmelin, without attempting completeness, enumerates no fewer than 28 terpenes, all of which are represented as being compounds with the formula $C_{10}H_{16}$, yet differing from one another in some way not explained.

When the benzene nucleus theory came into vogue and the laws of isomerism began to be understood, these differences were attributed to isomerism or the position of the grouping in the molecule, but it was soon perceived that if this were so, the number of isomers was still strictly limited, and attempts were made to reduce Gmelin's 28 to more modest proportions.

One of the first of the modern school of chemists to investigate the subject was Dr. Tilden of Birmingham. He succeeded in proving the indentity of several of the terpenes, and was the first to point out that in the cases of oils of lemon and orange the terpenes did not contain much flavor. Owing, however, to the high temperature employed in his method of fractionation, he unfortunately or fortunately seems to have come to wrong conclusions as to the properties of the high boiling portions of the oil.

Dr. Tilden was the first to point out that in the case of oil of lemon the terpene does not contain much flavour My object to-night is to prove to you that it really contains none. Dr. Tilden says: "Of the various constituents of volatile oils the terpenes which are present in so many of them contribute less than any other to the peculiar odor of the oil."

In the case of oil of lemon he finds, in addition to terpenes, a compound ether $C_{10}H_{17}(C_2H_3O)O$, which is decomposed by heat into a hydrocarbon ($C_{10}H_{16}$) and acetic acid. I have not been able to obtain any evidence of the presence of this body, and coupling this fact with the guarded words of Dr. Tilden, I have come to the conclusion that it does not exist.

About the same time—1877-79—that Dr. Tilden was at work, Dr. Gladstone and Mr. Kingzett made independent researches which confirmed Dr. Tilden's results as to the identity of the terpenes.

I have great pleasure in knowing that our countrymen led the way in the study of this important class of bodies, as at the present moment the classic research of Professor Wallach, Professor of Pharmacy at the University of Bonn, threatens to obscure entirely all that had previously been done.

Professor Wallach has devoted several years to the study of the terpenes, and his papers published in the "Annalen" relate the particulars of what may be described as a model research.

*A paper read before the Liverpool Section of the Society of Chemical Industry and reported in the *Journal* of the Society.

Exports of Petroleum from New York

REFINED.

COUNTRIES	Week Ending Apr. 4, Gals.	Jan. 1 to Mar. 28, 1891. Gals.	Jan. 1 to Mar. 31 1890. Gals.
Africa, Liberia	.....	11,700	.....
Sierra Leone	.....	.....	19,100
South Africa	.....	878,330	282,850
Zanzibar	.....	.....	383,000
Algier	.....	.....	.....
Anjer	.....	.....	.....
Arabia	.....	.....	220,000
Argentine Republic	.....	840,250	397,373
Australia	244,500	1,456,335	1,221,885
Austria	.....	.....	.....
Azores	.....	6,834	20
Belgium	920,000	3,239,874	5,158,222
Brazil	.....	2,227,348	1,786,383
British East Indies, Aden	.....	.....	60,000
Burmah	.....	.....	.....
Ceylon	.....	.....	.....
India	.....	4,937,060	3,141,130
Penang	.....	345,000	801,970
Singapore	.....	.....	.....
British Guiana	.....	114,900	93,767
British West Indies, Antigua	.....	9,990	6,540
Barbadoes	.....	66,250	105,838
Basse Terre	.....	35,150	27,200
Bermuda	3,471	20,549	43,018
Domenica	.....	3,214	3,300
Jamaica	7,100	144,087	200,021
Montserrat	.....	2,500	1,900
Nassau	2,428	15,989	18,948
St. Lucia	.....	9,305	7,480
St. Vincent	.....	2,000	11,000
Trinidad	6,500	69,700	90,250
All others	208	21,087	83,248
Canary Islands	.....	1,000	68,000
Central America, Belize	.....	31,208	16,583
Costa Rica	.....	20,225	15,832
Guatamala	.....	4,258	39,218
Honduras	.....	6,180	11,470
Nicaraugua	.....	26,453	46,351
San Salvador	.....	1,150	17,296
Chili	.....	66,720	423,000
China, Coohin	.....	.....	5,718,830
All other	899,000	8,273,570	585,000
Cuba	1,845	14,816	57,864
Danish West Indies	.....	8,153	9,516
Denmark	.....	873,499	.....
Dutch East Indies, Java	.....	686,000	2,224,340
Macassar	.....	.....	364,500
Sumatra	.....	.....	475,480
Dutch West Indies	.....	55,761	40,291
Dutch Guiana	.....	.....	150
Ecuador	.....	1,052	88,930
England	1,675,458	12,540,223	7,286,173
Egypt	.....	.....	.....
France	.....	139,508	80,000
French Guiana	.....	1,200	.....
French West Indies	.....	51,660	128,322
Germany	.....	20,595,555	15,068,249
Gibraltar	1,085,873	301,920	200,100
Greece	.....	.....	.....
Hawaiian islands	.....	213,840	140,000
Hayti	2,430	105,756	138,087
Ireland	.....	931,925	.....
Italy	.....	1,500	1,094,914
Japan	502,920	2 260,900	3,782,540
Madeira Islands	.....	31,000	4,000
Malta	.....	.....	4,000
Mauritius Island	.....	102,200	140,500
Mexico	.....	28,250	15,800
Moluoca Islands	.....	243,550	.....
Netherlands	.....	3,745,000	10,525
New Zealand	.....	179,920	458,190
North America, New Brunswick	.....	176,767	141,500
New Foundland	2,886	110,274	14,586
Nova Scotia	2,536	102,850	149,760
Prince Ed. Island	.....	2,415	236,025
Norway and Sweden	98,346	450,522	.....
Peru	.....	18,170	135,172
Porto Rico	5,000	33,013	223,215
Philippine Islands	.....	290,000	407,150
Portugal	.....	247,340	66,013
Reunion	.....	.....	.....
Russia	.....	.....	1,250
San Domingo	.....	48,848	.....
Scotland	.....	6,348	278,220
Siam	.....	40	.....
Spain	.....	.....	.....
Tasmania	.....	.....	.....
Turkey	.....	.....	.....
U. S. of Col	3,305	180,246	159,223
Uruguay	42,250	942,500	462,220
Venezuela	6,200	267,206	219,707
Wales	.....	.....	.....
Total	5,507,521	65,672,096	65,943,510

CRUDE.

COUNTRIES.	Week Ending Apr. 4. Gals.	Jan. 1 to Mar. 28. 1891. Gals.	Jan. 1 to Mar. 31, 1890. Gals.
Argentine Republic	.....	60,000	.....
Australia	.....	20	.....
Austria	.....	.....	.....
Belgium	.....	.....	.....
Brazil	.....	.....	.....
British Guiana	.....	.....	.....
British North America	.....	.....	.....
British West Indies	.....	.....	.....
Canary Islands	.....	.....	.....
Chili	.....	190	.....
China	.....	.....	.....
Central America	.....	.....	.....
Cuba	.....	634,522	1,291,098
Danish West Indies	.....	875	.....
Dutch East Indies	.....	.....	.....
Dutch West Indies	.....	.....	.....
England	.....	.....	.....
France	.....	4,640,040	4,594,313
Germany	.....	.....	500
Gibraltar	.....	.....	191,350
Hawaiian Islands	.....	.....	.....
Mexico	.....	980,649	225,100
Norway and Sweden	.....	.....	186,725
Spain	.....	2,402,370	1,005,545
U. S. of Col	.....	.....	.....
Uruguay	.....	.....	.....
Venezuela	.....	.....	.....
Total	.....	8,718,714	7,503,730

NAPHTHA.

COUNTRIES.	Week End' Apr. 4, Gals.	Jan. 1 to Mar. 28, '91 Gals.	Jan. 1 to Mar 31, '90 Gals.
Africa	.....	.....	.....
Algiers	.....	.....	200
Argentine Republic	.....	9,425	1,900
Australia	.....	2,175	.....
Belgium	.....	.....	141,671
Brazil	.....	184,509	6,800
british North America	.....	750	.....
British West Indies	400	4,500	2,000
Central America	.....	.....	.....
Chili	.....	600	.....
Cuba	.....	.....	.....
Dutch W I	.....	.....	.....
England	322,220	254,589	520,577
France	.....	381,464	214,190
Germany	.....	698,718	1,017,168
Hayti	.....	1,200	.....
Ireland	.....	.....	.....
Italy	.....	.....	.....
Mexico	.....	.....	1,500
Norway and Sweden	219,177	.....	.....
Porto Rico	.....	257	.....
Portugal	.....	800	.....
Russia	.....	.....	.....
St Domingo	.....	487	.....
Uruguay	.....	.....	275
Venezuela	.....	.....	.....
Wales	.....	.....	.....
Total	541,816	1,535,793	2,272,360

Without going into detail I may say that generally Professor Wallach has succeeded in classifying the terpenes and bringing them into some sort of order. At the same time a large number which were thought to be distinct from one another have been proved to be identical.

Thus—Cinene, the terpene of oil of wormseed.
Cajeputene, " " cajeput.
Hesperidene " " orange peel.
Citrene, one of the " lemon peel.
Carvene, " " caraway.
Menthene, " " peppermint.

are all identical and may be termed limonene. This terpene is also present in oil of camphor, oil of dill seed, oil of erigeron, oil of pine needles. Naturally, it having been proved that the terpenes of lemon, caraway, and peppermint were identical, it at once became probable that in the same way that as the flavor of oil of caraway is due to carvol, peppermint to menthol and menthon, so oil of lemon would prove to owe its flavor to some quasi impurity of the terpene.

Chemists were not long in trying to isolate this, the characteristic constituent, and it is now possible to prepare it in an almost pure form. I am pleased to be able to lay before the meeting a sample of this body and also the body to which oil of limes owes its characteristic flavor. I have also samples of the terpenes from which these bodies have been separated.

If oil of lemon be distilled in a glass retort in the ordinary way over a gas burner or otherwise, and the distillation is not carried too far, the distillate will be found to be weaker than the original oil, whilst the residue in the retort is considerably stronger. This is the body, prepared in a more scientific way and completely freed from terpene, which I designate concentrated oil, and samples of which I now exhibit.

I term it concentrated oil because up to the present I cannot say with certainty what is its exact chemical composition. I hope to continue my investigations in this direction, and will meanwhile give you particulars of its properties.

Concentrated oil of lemon is neutral to litmus paper and has a pure lemon smell. It has a specific gravity of 901, never less than 900, at 15° C., and boils at 220° to 240° C., at which temperature it is partly decomposed.

Treated with bisulphate of soda it forms a magma and it is probably an aldehyde. With oxidising agents it yields a fatty acid. Warmed with metallic sodium it yields a brown mass.

A similar article to the one I am now showing was examined by Dr. Schweissinger, who published his results in the *Pharmaceutishe Centralhalle*, and my results agree with his.

The terpene from which the concentrated oil has been separated retains a pleasant but weak odor, but is practically free from all flavor of lemon. The specific gravity is 850. It boils between 168° and 178°, and consists of pinene and limonene.

Concentrated oil of limes made from the fruit has not been previously prepared that I am aware of, though some work has been done in this direction by Mr. Francis Watt, chemist to the Montserrat Company. The oil which he examined and reported on to the Chemical Society of London was made from the leaves and young fruit of the lime fruit tree, Limus limetta. This is not a commercial article.

In the oil of lime leaves, Mr. Watt found a body boiling between 220° and 230° C., which he believes to be methylnonyl-ketone, $CH_3COC_9H_{19}$. This is possibly the same body which I am about to describe as concentrated oil of limes, made from the fruit.

Concentrated oil of limes as prepared by myself has a specific gravity of 920 to 923, is neutral to litmus paper and boils from 220° to 230° C. With bisulphite of soda it forms a magma. Warmed with metallic sodium it becomes very viscid, but not solid. With oxidising agents it forms a fatty acid.

The terpene from which the concentrated oil has been separated, contains a small quantity of a substance with a low boiling point, having a very objectionable smell, to which in a considerable degree the rankness of oil of limes is due. This is present in such small quantities that at present I have not been able to isolate it. The terpene when freed from this impurity has very similar properties to the terpene from oil of lemon. It retains a slight smell of limes, but is quite free from flavor. It boils at 176° to 180° C., and is probably nearly pure citrene.

Now as to the practical application.

Up to the present time the chief employment of these concentrated oils has been in the manufacture of liquers and syrups, and the improved flavor obtained by the absence of the objectionable greasiness of the terpene makes them specially suitable for this purpose. A great point in their use is that they dissolve at once to a clear solution, and in spirit of a much lower strength than has to be employed when using crude oils. In this country, where the high duty on alcohol makes spirit such a very expensive article, this is a very important advantage.

In using them it is a good plan to dilute the oils to about the same strength as the oils from which they have been prepared with strong spirit, say, 56 per cent. over proof; 1 part, to 20 parts of spirit. You then have a solution which can be used in old receipts without making any calculation. It is rather remarkable that this solution in strong spirit has but little smell, the odor being only developed when the solution is largely diluted with water. The same thing is noticed, but to a smaller extent, when ordinary oil of lemon is dessolved in spirit, but the terpene seems to aid the diffusibility of the odorous principle.

Having diluted the concentrated oil with strong spirit to the strength of the ordinary oils, they may be further diluted with weaker spirit or added to the bulk of the cordial or liqueur to be flavoured.

The following table represents in a convenient form the solubility of the concentrated oils in various strengths of spirit:—

Strength of Spirit. Rectified Spirit, sp.gr.	Concentrated Oil of Lemon.	Concentrated Oil of Lime.
838	All proportions.	All proportions.
900	1 in 150	1 in 160
905	1 in 300	1 in 400
920	1 in 500	1 in 600
935	1 in 3,000	1 in 4,000

In confectionary uses have been found where the employment of concentrated oils is advantageous, and in articles where sugar or other dry powders are required to be flavored with lemon, and where oxidation is very rapid, the use of concentrated oil is an improvement. As the boiling point is so much higher than that of the crude oils, it may be advantageous to use concentrated oils where high temperatures are employed in this department.

I do not doubt that in perfumery concentrated oil of lemon will to a large extent displace the crude oil, owing, amongst other reasons, to the fact that it is quite free from the fixed fat and resin which is contained in ordinary oil.

How nasty this residue is, contaminated as it is with dirt from the hands of the none too cleanly Italian workmen who prepare the oil, you will have an opportunity of judging for yourselves from the sample on the table.

For perfumery I have to acknowledge one disadvantage, and that is, that in an alcoholic solution the odor is only developed when the spirit has entirely evaporated; when the perfume has evaporated on the handkerchief the purity of the odor becomes evident. I think that by using a small quantity of terpene in addition to the concentrated oil, this difficulty would be got over, and the advantages of being able to use a weak spirit retained.

An important point is: Do the concentrated oils keep? The answer is: Yes, much better than the crude oils. They should be carefully stored and the same precautions taken as are usual with valuable essences, and they keep well. It is quite impossible for them to become "turpentiney" as they contain no terpene, $C_{10}H_{16}$, whatever.

The deterioration of oil of lemon by keeping is due, in my opinion to the production of nascent peroxide of hydrogen by the action of air and moisture on the limonene and pinene. This reaction, which has been so ably utilized by Mr. Kingzett in his Sanitas process, is highly objectionable in oil of lemon, rapidly destroying the aldehyde to which the flavor is due.

The best method therefore of preserving the flavoring principal of oil of lemon is to remove the terpene. It can then be kept, if excluded from the air, in the same way as any other aldehyde.

In conclusion, I have to thank the proprietors of the Lion Still chemical works for permission to read this paper and for the loan of the samples on the table.

The Conversion of the Nitrogen Contained in Acid Sludge of Oil Works into Ammonia.*

BY L. J. REDWOOD.

Some idea of the great importance of utilizing the by-prodvct "acid sludge" or "acid tar" of the Scotch oil works to better advantage than as fuel, can be obtained from the fact that from the estimated total production of about 37,000 tons of acid sludge per annum, a theoretical yield of over 6,100 tons of sulphate of ammonia should be obtained; and this amount at £11 5s per ton, would realize £68,625, against (at 3s 6d. per ton for acid sludge) £6,484 as fuel.

It is therefore hoped that the publication of the results of experiments made by the author at the Addiewell works of Young's Company on the conversion of the nitrogen of the oily bases of this acid sludge into ammonia may be of material value to those who are in a position to carry on the experiments and make the process a commercial success.

The mixed tars resulting from the treatment of shale oils with sulphuric acid are of a thick treacly canaistency, and contain about 20 per cent. of crude oily bases of the leucoline series, which, it was thought, might be decomposed by superheated steam, and the nitrogen thus set free made to combine with the hydrogen of the steam to form ammonia.

Numerous experiments on a minature scale, after many failures, at last gave sufficiently encouraging results to justify the erection of a large experimental plant. The retort was a cast-iron cylinder, 9 feet long by 6 inches internal diameter, Two cast-iron cylinders which were filled with pieces of coarsely broken brick, were used as contact chambers, and were so connected that by closing one cock and opening another the gases passed through the contact chamber only. Whereas the gases could be passed through both contact chambers. A condenser for the products of decomposition, was used in which were separated, the gases passing on to the gas holder, while the water and neutral tar flowed out. There was a superheater through which the steam passed before it entered the front end of the retort. The furnace was connected with an underground flue.

As it was evident that the acid sludge would soon destroy the iron retort, it was first neutralised with "lime waste" (i. e., lime after it had been used to causticize recovered soda) and equal weights of acid sludge and lime waste were found to make a very satisfactory mixture to work with. In all the experiments the retort was charged with 10 lbs. of this mixture at a time, and after the lapse of about 50 minutes the charge was drawn and a fresh one introduced.

In the first set of experiments, the gases were passed through one contact chamber only, and the apparatus was worked at a bright red heat. The average yield of products from 100 lbs. of the above compound were:

700 cub. ft. of gas.
25 gls. of ammonia water (yielding 385 grs. of sulphate per gallon).
2·45 lbs. of neutral tar.

In the second set of experiments, the gases were passed through two contact chambers, and the apparatus was worked at a visible red heat. The average yields were:

830 cub. ft. of gas.
16¾ gls. of ammonia water (yielding 575 grs. of sulphate per gallon).
8·47 lbs. of neutral tar.

The third set of experiments, using two contact chambers and employing a brigat red heat, yielded the following results:

816 cub. ft. of gas.
16¼ gls. of ammonia water (yielding 670 grs. sulphate per gallon).
1·44 lbs. of neutral tar.

The gas obtained was found to be sufficient to supply about one-half of the total heat required to run the apparatus.

The resulting neutral tar was found to be solubie in naphtha to the extent of about 65 per cent., but other characteristics will be referred to later.

The results of the above experiments when calculated on 100 lbs. acid sludge are shown in Table I.

TABLE I.

Product.	Experiments.—lbs. 1st set.	2d set.	3d set.
Sulphate ammonia (at 25·76 per cent. NH_3). ..	2·66	3·05	3·06
Tar { soluble in naphtha..	3·00	11·80	2·05
Tar { insoluble in naphtha	1·90	5·14	0·81
Gas.	1,400 cu. ft.	1,660 cu. ft.	1,632 cu. ft

In determining the yield of sulphate of ammonia, the titration test only was not relied upon, but the sulphate of ammonia was crystallized out, dried, and its strength determined.

Table I. shows plainly that both a high heat and ample contact surface are necessary for the complete decomposition of the neutral tars, and it also shows that double the contact surface with a lower heat is not so effective as a higher heat and half the contact surface, thus making it clear that high heat is essential to the successful decomposition of the neutral tar. But when the heat is the same in both cases, the yield of neutral tar is halved by the doubling of the contact surface as is seen by comparing the results of the first and third sets ot experiments.

As the sulphate of ammonia obtained from those experiments only represented about 16 per cent. of the total nitrogen contained in the acid sludge, and as an accurate knowledge of the distribution of the remaining 84 per cent. of nitrogen was indispensable for the successful conduct of future experiments, analyses of the various products were made in triplicate and the average results are shown in Table II.

Table III. shows the distribution of nitrogen calculated on acid sludge.

TABLE II.

Product.	Percentage of Nitrogen. Experiments. 1st set	2d set	3d set.
Sulphate ammonia.....	21·212	21·212	21·212
Tar { soluble in naphtha.....	5·993	5·532	4·875
Tar { insoluble in naphtha....	5·793	5·673	4·840
Residues from retort.....	0·274	0·457	0·249

TABLE III.

Product.	Percentage of Nitrogen calculated on Acid Sludge. Experiments. 1st set.	2d set.	3d set.
Sulphate ammonia...	0·5641	0·6469	0·6490
Tar { soluble in naphtha...	0 1798	0.5828	0·0999
Tar { insoluble in naphtha.	0·1100	0.2916	0·0992
Residues from retort.....	0·1644	0·2742	0·1494
Gas (by difference).....	2·4797	1·6325	2·5605
Total.....	3·4980	3·4990	3·4980

Nitrogen determined in acid sludge—3·4980 per cent.

It is rather discouraging to note in Table III that, on an average, 2·2242 parts of nitrogen (equal to about 63·5 per cent. of the total nitrogen contained in acid sludge) passes away in the gas without combining with the hydrogen of the steam to form ammonia, and that additional contact surface does not appear to promote in any way the chemical union of the gases. It was thought that the use of soda lime might tend to bring about the desired union, and the contact chambers were therefore filled with balls made of soda lime in place of the broken brick, but the results were unsatisfactory in the sense that the improvement was not sufficient to justify the additional expense. The particulars of the results of these last experiments have been unfortunately mislaid and therefore cannot be tabulated with the rest.

The specific gravity of the neutral tar from the above experiments was 1·129. The tar was wholly soluble in carbon disulphide; naphtha dissolved about 65 per cent., and when the naphtha solution was evaporated in the steam bath, a black oily residue was left which had a specific gravity of 1·1 and yielded on distillation 65·22 per cent. of a thick dark tarry oil of 1·045 sp. gr. This distillate had a boiling point of 190° C., and when redistilled, 50 per cent. came over under 290° C. This redistillation could not be carried to dryness owing to the delivery tube becoming choked with a crystalline substance that on further examination proved to be an anthracene.

The portion of the neutral tar that was insoluble in naphtha was nearly as solid, but not so brittle, as pitch, and its specific gravity was 1·184. It was on'y slightly soluble in ether, and the ethereal solution on evaporation left a thick sticky residue. It was soluble in coal-tar benzol to the extent of about 60 per cent., and on evaporating the benzol, a nearly solid black, sticky residue was left. It was wholly soluble in carbon disulphide. On distillation it yielded 45·3 per cent. of a black oily tar of 1·077 sp. gr.

For the past four years or so, two or three of the Scotch oil companies have been in the habit of recovering the acid from the acid sludge, and using the recovered acid for the manufacture of sulphate of ammonia. Recovered acid is of a very dark red color, owing to its containing nearly the whole of the oily bases in solution, but as soon as it is neutralized with ammonia in the "cracker-boxes," those oases rise to the surface, and are now separated for use as fuel.

These oily bases could doubtlessly be obtained in quantity from any of the works where they are thus produced, and in the event of any of the members of this Society being inclined to carry on these experiments, they would find that experimenting with oily bases presents less difficulty than dealing with acid sludge, which latter, besides having to be neutralized with lime waste, also has to be introduced into the retort by hand, whereas the retort could easily be fed with the bases by means of an injector worked by the superheated steam; a continuous and more satisfactory proocess of decomposition could thus be carried on.

As it is evident that a fire-clay retort, and contact chambers made of the same material, if maintaintained at a nearly white heat, will effect the complete decomposition of oily bases, the aim of future experiments should be the discovery of a contact substance capable of promoting the union of the free hydrogen and nitrogen, and sufficiently cheap to make the process of commercial value.

*Read befpre the Liverpool Section of the Society of Chemical Industry and printed in the *Journal* of the Society.

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32 cs, Scandia, Hamburg
1 cs, Richmond Hill, London
1 cs, La Champagne, Havre
BORACIC—36 cks, Trinaria, Leghorn
CARBOLIC—20 cs, Holland, London
PICRIC—20 bxs, Galileo, Hull
ALBUMEN—7 cks, Holland, London
LIQUID—7 bbls, Umbria, Liverpool
ALIZARINE—50 cks, Scandia, Hamburg
29 cks, Spaarndam, Rotterdam
9 cks, Spaarndam, Rotterdam
20 cks, Westernland, Antwerp
12 cks, Westernland, Antwerp
ALUM—100 cks, 100 bgs, Spaarndam, Rotterdam
ALUMINA SULPH—30 cks, Croma, Newcastle
ALUMINUM—1 cs, Gellert, Hamburg
AMMONIA SAL—21 cks, Galileo, Hull
CARB—75 cks, J L & D S Riker, Nevada, Liverpool
SULPH—544 bgs, Croma, Glasgow
ANILINE COLORS—10 cs, 15 cks, P Caland, Rotterdam
1 ck, Noordland, Antwerp
22 cks, Scandia, Hamburg
19 cks, 10 cs, Spaarndam, Rotterdam
10 cks, Werra, Bremen
1 cs, 4 cks, La Champagne, Havre
11 cks, Aller, Bremen
1 cs, Umbria, Liverpool
7 cs, 5 cks, Westernland, Antwerp
1 kg, Westernland, Antwerp
7 cks, Nevada, Liverpool
5 pgs, Sykes & Street, La Gascoyne, Havre
SALT—38 cs, Westernland, Antwerp
50 cs, Westernland, Antwerp
38 cs, Nevada, Liverpool
ANNATTO—13 bbls, Brixham, Jamaica
22 bbls, Adirondack, Kingston
19 bbls, Dorian, Kingston
3 bbls, Dorian, Kingston
18 bbls, Dorian, Kingston
3 bbls, Dorian, Kingston
ANTIMONY—75 cks, Croma, Newcastle
ARGOLS—23 cks, Holland, London
4 cks, Noordland, Antwerp
97 cks, City of Chester, Liverpool
113 bgs, 75 cks, Trinaria, Naples
353 bgs, Trinaria, Naples
46 bgs, City of Chicago, Liverpool
249 bgs, Bessarabia, Messina
410 bgs, Bessarabia, Messina
202 bgs, 59 cks, Burgundia, Marseilles
19 cks, Burgundia, Marseilles
64 bgs, 42 cks, Burgundia, Marseilles
104 bgs, Iniziativa, Palermo
AROMATIC SEED—4 cs, Richmond Hill, London
ASPHALTUM—7,000 loaves, Sapphire, Gestemunde
BALSAM COPAIBA—8 cs, Bessarabia, Messina
BARIUM OXIDE—15 cs, Scandia, Hamburg
8 cks, Aurania, Liverpool
PEROXIDE—10 cks, Gellert, Hamburg
BARK EXT—9 bbls, Westernland, Antwerp
BARYTES—250 tons, Sapphire, Bremen
BEESWAX—2 hhds, 2,635lb, Niagara, Havana
3 scr, G W Clyde, Pto Plata
BISMUTH—2 kgs, Richmond Hill, London
BLEACH—42 cks, J L & D S Riker, Runic, Liverpool
80 cks, J L & D S Riker, Runic, Liverpool
49 cks, J L & D S Riker, Olive Branch, Liverpool
49 cks, J L & D S Riker, Italy, Liverpool
253 cks, Wing & Evans, Olive Branch, Liverpool
BONES—146 bgs, J D Bueno Santiago
7 tons, J D Bueno, Santiago
BRIMSTONE—250 tns, Iniziativa, Palermo
300 tns, Iniziativa, Palermo
BRONZE POWDER—2 cs, 992lb, Werra, Bremen
2 cs, 1,000lb, Werra, Bremen
2 cs, 800lb, Werra, Bremen
14 cs, 7,018lb, Aller, Bremen
10 cs, 4,305lb, Aller, Bremen
4 cs, 1,200lb, Aller, Bremen
BUCHU LEAVES—5 bls, La Champagne, Havre
CACAO BUTTER—9 cs, Holland, London
CALCIUM CHLO—40 dms, J L & D S Riker, Italy, Liverpool
CANDLES—226 cs, Umbria, Liverpool
CANRY SEED—50 bgs, Bessarabia, Messina
CANTHARIDES—4 cks, Holland, London
CARAWAY SEED—200 bgs, Spaarndam, Rotterdam
CARDAMON SEED—11 cs, Richmond Hill, London
CHALK—600 tons, Vermont, London
1,300 tns, Western Bell, London
CHAMOIS—1 cs, Germanic, Liverpool
3 cs, Germanic, Liverpool
CHEMICAL COMPOUND—4 cs, G Mannering, Shanghae
2 cs, Werra, Bremen
15 cs, Richmond Hill, London
1 cs, La Champagne, Havre
5 cs, Aller, Bremen
3 cks, Nevada, Liverpool
PREP—3 cs, Richmond Hill, London
8 cks, Aller, Bremen
SALTS—42 cks, Noordland, Antwerp
50 cks, Spaarndam, Rotterdam
12 cks, Apollo, Antwerp
37 cks, Galileo, Hull
CHLORAL HYDRATE—5 cs, Scandia, Hamburg
5 cs, Aller, Bremen
CHROME YELLOW—1 ck, 524lb, Holland, London
CINNAMON—15 bls, Holland, London
CLAY—20 bgs, 2 tns, Spaarndam, Rotterdam
315 cs, 38 cks, 142 tns, Saphire, Bremen
CLOVES—500 bgs, Holland, London
100 bls, Holland, Liverpool
CLIFFSTONE—1,037 tns, C Hulbert, Hull
COAL-TAR—85 cks, Richmond Hill, London
72 bbls, Croma, Leith
5 cks, Westernland, Antwerp
COLORS—62 cks, 2 cs, Spaarndam, Rotterdam
PREP—10 bbls, Galileo, Hull
PITCH—155 cks, Croma, Leith
COLCOTHAR—45 cks, Richmond Hill, London
COLOCYNTH—1 cs, Caledonia, Marseilles
COLORS—19 cks, Scandia, Hamburg
34 cs, 2 cks, Spaarndam, Rotterdam
9 cs, Germanic, Liverpool
1 cs, Umbria, Liverpool
1 cs, Gellert, Hamburg
3 cs, City of Washington, Vera Cruz
2 cs, Westernland, Antwerp
2 cs, Teutonia, Liverpool
CORK—5 bls, La Champagne, Havre
WOOD—22 bdls, Vega, Cadiz
CROCUS—3 cks, Richmond Hill, London
CUBEBS—1 bg, Galileo, Hull
CUDBEAR—1 bbl, 293lb, Sykes & Street, La Gascoyne, Havre
DEXTRINE—125 bgs, 27,143lb, Stein, Hirsch & Co, India, Stettin
100 bgs, 21,715lb, India, Stettin
125 bgs, 27,143lb, India, Stettin
DIVI DIVI—111 bgs, S Dumoin, Carthagena
DRUGS—12 bdls, Richmond Hill, London
5 cs, Galileo, Hull
DUTCH METAL—1 cs, Aller, Bremen
LEAF—1 cs, Aller, Bremen
DYEWOOD EXT—24 cks, Galileo, Hull
EARTH—1,300 bgs, 100 tns, Holland, London
304 bgs, 25 tns, Jersey City, Swansea
1,200 bgs, 100 tns, Richmond Hill, London
SIENNA—60 cks, Trinacria, Leghorn
30 cks, Trinacria, Leghorn
ERGOT—13 cs, Richmond Hill, London
EXTRACTS—2 cs, W H Schieffelin & Co, Burgundia, Marseilles
FLOWERS—10 bls, Galileo, Hull
FISH SOUNDS—7 bgs, Caracas, Curacoa
19 bgs, Caracas, Curacoa
3 bgs, Caracas, Curacoa
FUSTIC—14 tns, Vale Royal, Rio Buena
GAMBIER—219 bls, Holland, London
1,219 bls, Holland, London
166 bgs, G Mannering, Shanghae
GAMBOGE—2 cs, Richmond Hill, London
GALLS—50 bgs, Richmond Hill, London
GLUE—30 bxs, Holland, London
5 cks, Colorado, Hull
5 cks, Germanic, Liverpool
105 bgs, Jersey City, Bristol
2 cks, 30 bls, Jersey City, Bristol
10 cs, India, Stettin
25 cks, Galileo, Hull
12 bls, Richmond Hill, London
5 bls, La Champagne, Havre
GELATINE—5 cks, 75 bxs, Germanic, Liverpool
27 cs, Apollo, Antwerp
3 cks, 35 bxs, W H Schieffelin & Co, Teutonic, Liverpool
5 cks, W H Schieffelin & Co, Wyoming, Liverpool
GINGER—94 bbls, Brixham, Jamaica
53 bgs, Holland, London
14 bbls, Dorian, Kingston
GREASE—60 cks, 22,574lb, Holland, London
50 bbls, 18,174lb, Trinacria, Leghorn
GLYCERINE—10 cs, Scandia, Hamburg
90 dms, Galileo, Hull
17 dms, Trinacria, Leghorn
20 dms, Burgundia, Marseilles
GLASS BENT—1 cs, Richmond Hill, London
CATH—3 cs, 1,598lb, Deronia, Glasgow
21 cs, 11,483lb, Deronia, Glasgow
COLORED—1 cs, 141lb, Westernland, Antwerp
PLATE—17 cs, 5,883 ft, P Caland, Rotterdam
5 cs, 1,583 ft, Noordland, Antwerp
16 cs, 4,766 ft, Spaarndrm, Rotterdam
6 cs, 2,833 ft, Germanic, Liverpool
15 cs, 3,886 ft, Apollo, Hull
2 cs, 458 ft, Richmond Hill, London
96 cs, 38,402 ft, Apollo, Antwerp
2 cs, 767 ft, Werra, Bremen
134 cs, 43,470 ft, Apollo, Antwerp
11 cs, 5,992 ft, Devonia, Glasgow
8 cs, 2,150 ft, Westerland, Antwerp
4 cs, 2,00 ft, Teutonia, Liverpool
L G PLATE—1 cs, 418 ft, P Caland, Rotterdam
1 cs, 30 ft, Nevada, Liverpool
1 cs, 261 ft, Richmond Hill, London
6 cs, 3,119 ft, Westernland, Antwerp

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NOVELTIES

POMADES, LILAS FLEURI and WHITE LILAC. SOAP-MAKERS AND PERFUMERS ESSENTIAL OILS.

Extracts from these Pomades give Exactly the Natural Odor of the Flowers.

Oils Lavender, African and True Geranium and other Essential oils of first quality.

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SCHERING'S Chloral Hydrate, Salicylic Acid, Carbolic Acid, Pyrogallic Acid, Glycerine, Paraldehyd, Etc.

Russian Isinglass, Oil Sandalwood, Etc.

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THE CHEMISCHE FABRIK AUF ACTIEN (vorm E. SCHERING) BERLIN.

WINDOW—1,099 cs, 75,684lb, Noordland, Antwerp
25 cs, 1,792lb, Scandia, Hamburg
1,142 cs, 73,244lb, Apollo, Hull
3,325 cs, 213,925lb, Apollo, Hull
951 cs, 51,275lb, Noordland, Antwerp
4,062 cs, 231,525lb, Apollo, Antwerp
4,824 cs, 289,040lb, Apollo, Antwerp
948 cs, 56,100lb, Apollo, Antwerp
375 cs, 19,650lb, Apollo, Antwerp
22 cs,7,451lb, Germanic, Liverpool
500 bxs, 28,000lb, Westernland, Antwerp
1 bx, 486lb, Nevada, Liverpool
GYPSUM—100 cks, 36 tns, Germanic, Liverpool
200 cks, 74 tns, Croma, Newcastle
92 bbls. J L & D S Riker. Runic, Liverpool
GUM—1 cs. 9 cks, W H Schefflein & Co Holland, London
ANIMI—3 cs, Richmond Hill, London
ARABIC—20 bgs, Holland, London
BENZOIN—9 cs, Richmond Hill, London
CHICLE—1 cs, C of Washington, Vera Cruz
OLIBANUM—27 cs, Richmond Hill, Lndon
TRAGUCANTH—46 cs, Holland, London
189 pgs, Richmond Hill, London
29 cs, Holland, London
53 cs, Thurston & Braidich, Ludgate Hill, London
HEMP SEED—450 bgs, Galileo, Hull
HERBS—14 bgs, Galileo, Hull
INDIGOTINE—2 cks, Noordland, Antwerp
INDIAN RED—2 cks, Jersey City, Swansea
21 cks, Galileo, Hull
INDIGO—20 chts, Holland, London
40 chts, Holland, London
36 chts, Holland, London
17 chts, Holland, London
22 chts, Wyoming, Liverpool
10 chts, Richmond Hill, London
10 chts, Richmond Hill, London
EXT—17 cks, 11,728lb, Holland, Loffdon
15 cks, 16,120lb, Germanic, Liverpool
JALAP—7 bls, Holland, London
2 bls, C of Washington, Vera Cruz
5 bls, C of Washington, Vera Cruz
IPECAC—5 bls, La Champagne, Havre
IRON OXIDE—52 cks, Jersey City, Bristol
15 cks, Galileo, Hull
KAINIT—404 tns, Azalea, Hamburg
LEMON JUICE—25 pipes, Bessarabia, Messina
LICORICE—1 cs,W H Schieffelin & Co, Ludgate Hill, London
ROLLS—35 cs, W H Schieffelin & Co, Trinacria, Leghorn
LIME ARSENIATE—943 kgs, Richmond Hill, London
JUICE—165 cs, Germanic, Liverpool
LITHARGE—22 cks, 22,000lb, Devonia, Glasgow
LOGWOOD—384,000lb, A R Kemp, Gonaives
174,000lb, Cornelia, Aitata
15 tns, Vale Royal, Rio Bueno
46,000lb, E Fay, Gonaives
MACE—10 cs, Holland, London
11 cs, Holland, London
MAGNESIUM POWDER—1 cs, Werra, Bremen
MALT EXT—22 cks, Scandia, Hamburg
MATCHES—2 cs, L Accame, Genoa
MANURE SALT—500 bgs, Gellert, Hamburg
MEDICAL PREP—2 pgs, Waesland, Hamburg
5 cs, Richmond Hill, London
1 cs, Richmond Hill, London
9 cs, LaChampagne, Havre
87 cs, Burgundia, Marseilles
1 pg, Werra, Bremen
3 cs, W H Schieffelin & Co, Richmond Hill, London
70 cs,W H Schieffelin & Co, Noordland, Antwerp
WATERS—70 cs,W H Schieffelin & Co, Burgundia,M'seilles
MINERAL WAX—1 bg, Noordland, Antwerp
RED—6 bbls, Teutonic, Liverpool
CARBON—127 cks, Richmond Hill, London
MUSTARD SEED—104 bgs, Inziativa, Palermo
MUSK—1 cs, Liebman & Butler Germanic, Liverpool
NUTGALLS—126 cs, G Mannering, Shanghae
EXT—25 bbls, Westernland, Antwerp
NUTMEGS—140 bxs, Holland, London
1 cs, Holland, London
33 cs, Sparrndam, Rotterdam
NUTS—2 bbls,W H Schieffelin & Co, Ludgate Hill, London
OIL ALMOND—3 cs, Holland, London
3 cs, Burgandia, Marseilles
ANILINE—23 bbls, Westernland, Antwerp
BERGAMOT—50 cs, Bessarabia, Messina
COD LIVER—50 bbls, W H Schefflein & Co Galileo, Hull
ESS—1 cs, Scandia, Hamburg
1 cs, C of Washington, Vera Cruz
1 cs, La Champagne, Havre
35 cs. Bessarabia, Messina
2 cs,W H Schieffelin & Co, Ludgate Hill, London
FENNEL—1 cs, Scandia, Hamburg
GERANIUM—1 cs, Liebman & Butler, LaGascoyne,Havre
LEMON—100 cs, Caledonia, Marseilles
200 cs. Bessarabia, Messina
10 cs. Bessarabia, Messina
25 cs, W H Schieffelin & Co, Bessarabia, Messina
25 cs. Bessarabia, Messina
6 cs, Inizlativa, Palermo
11 cs, Bessarabia, Messina
LAVENDER—1 cs, Liebman & Butler,La Gascogne,Havre
NEROLI—1 cs,W H Schieffelin & Co,Burgundia,Marseilles
NUT—1 ck, Spaarndam, Rotterdam
OLIVE—10 cs, Olympic, Liverpool
25 cs, Caledonian, Marseilles
25 cs, Germanic, Liverpool
3 bbls, Galileo, Hull
1 ck, T Anderson, Palermo
11 bbls, Trinacria, Leghorn
11 cs, Trinacria, Leghorn
10 cs, Trinacria, Leghorn
63 cs, La Champagne, Havre
39 cs, Gellert, Hamburg
3 cs, Neustria, Napies
18 cs, 4 cks, Trinacria, Leghorn
48 cs, Trinacria, Leghorn
300 cs, Trinacria. Leghorn
75 cs, Trinacria, Leghorn
10 bxs, Trinacria, Leghorn
15 cs, Trinacria, Leghorn
5 cs, Trinacria, Leghorn
100 bbls, Bessarabia, Messina
40 cs, Burgundia, Marseilles
3 bbls, Burgundia, Marseilles
48 cs, Burgundia, Marseilles
70 bbls, Nevada, Liverpool
100 bbls, Iniziativa, Palermo
100 bbls, Bessarabia, Messina
65 bxs, 6 jars, W H Schieffelin & Co, Trinacria, Leghorn
ORANGE—10 cs, Bessarabia, Messina
3 cs, Bessarabia, Messina
5 cs, W H Schefflein & Co Bessarabia, Messina
5 cs, Bessarabia, Messina
POPPY—12 bbls, 612 gls, La Bourgogne, Havre
PATCHOULY—5 cs, G Mannering, Shanghae
ORANGE MINERAL—10 cks, 6,742lb, Spaarndam, Rotterdam
OPIUM—5 cs, Richmond Hill, London
OTTO OF ROSE—1 bx, Germanic, Liverpool
ORCHIL EXT—2,153lb, Sykes & Street, La Gascoyne, Havre
ORRIS ROOT—14 bgs, Trinacria, Leghorn
10 bgs, Trinacria, Leghorn
1 cs, Liebman & Butler, La Gascoyne, Havre
OCHER—100 cks, Galileo, Hull
PAINTS—23 cks, Germanic, Liverpool
PERFUMERY—5 cs, Holland, London
7 cs, Gellert, Hamburg
23 cs, La champagne, Havre
1 cs, La Champagne, Havre
PEPPER—8 bgs, Holland, London
168 bgs, Holland, London
387 bgs, Richmond Hill, London
187 bgs, Holland, London
PILLS—1 cs,W H Schieffelin & Co, Ludgate Hill, London
PIMENTO—49 bgs, Adirondack, Kingston
1,196 bgs, V Reynolds, Rio Bueno
2 bgs, Dorian, Kingston
67 bgs, Dorian, Kingston
PITCH—76 cks, Sorrento, Antwerp
10 cks, Connemaugh, Antwerp
PHOSPHORUS—100 cs, Colorado, Hull
10 cs, Galileo, Hull
PRUSSIAN BLUE—1 cs, Richmond Hill, London
PLUMBAGO—2 cks, Richmond Hill, London
20 bbls, Saphire, Bremen
POMADE—6 cs, Liebman & Butler, La Gascoyne, Havre
8 cs, 1,165lb, T T Grossmith, La Gascogne, Havre
POTASH—95 cks, Apollo, Antwerp
CARB—20 cks, Scandia, Hamburg
30 cks, Apollo, Antwerp
62 cks, Scandia, Hamburg
CAUSTIC—31 dms, Noordland, Antwerp
40 cyl, Westernland, Antwerp
CHLO—100 kgs,J L & D S Riker,City of Chicago,Liverpool
MURI—4,000 bgs, Gellert, Hamburg
2,000 bgs, 448,000lb, H H Salmon, Dania, Hamburg
PRUSS—14 cks, Werra, Bremen
POTATO FLOUR—100 bgs, 21,715lb, India, Stettin
QUININE—20 cs, 10,000 ozs, Richmond Hill, London
25 cs, 13,800 ozs, Aller, Bremen
RAPE SEED—6 bgs, Werra, Bremen
RED LEAD—1 ck, Scandia, Hamburg
20 cks, Wing & Evans, Runic, Liverpool
ROOTS—14 cs, Caledonia, Marseilles
5 bls, Galileo, Hull
30 bls, Galileo, Hull
2 bls, Galileo, Hull
34 pgs, India, Stettin
SEED—82 cs, 20 bgs, Holland, London
3 bgs, Galileo, Hull
SENNA—24 bls, Richmond Hill, London
SPONGE—115 bdls, Niagara, Havana
20 bls, J Brun, Nassau
379 cs, Germanic, Liverpool
276 cs, Germanic, Liverpool
67 bls, Saratoga, Havana
CLIPPINGS—100 bgs, Holland, London
STICLAC—10 cs, Holland, London
SPICES—1 bl, Holland, London
SHELLAC—400 cs, Holland, London
100 chts, Richmond Hill, London
SODIUM—1 cs, Scandia, Hamburg
SOAP CASTILE—250 bxs, Trinacria, Leghorn
50 cs, Trinacria, Leghorn
55 cs, Burgundia, Marseilles
STOCK—60 cks, Galileo, Hull
100 bbls, Iniziativa, Palermo
50 bbls, Iniziativa, Palerpo
TOILET—77 cs, Umbria, Liverpool
SODA ASH—12 cks, 9,900lb, P Caland, Rotterdam
91 cks, 111,860lb, Croma, Newcastle
155 cks, 215,289lb, Croma, Newcastle
30 cks, J L & D S Riker, Runic, Liverpool
200 cks, J L & D S Riker, Italy, Liverpool
525 cks, Wing & Evans, Italy, Liverpool
269 cks, Wing & Evans, City of Chicago, Liverpoo
550 cks, Wing & Lvans, Runic, Liverpool
757 cks. Wing & Evans, Olive Branch, Liverpool
250 cks, Wing & Evans, Servia, Liverpool
BICARB- 334 bbls, J L & D S Riker, Italy, Liverpool
CARB—140 bbls, J L & D S Riker, Runic, Liverpool
CAUSTIC—225 dms, C of Chester, Liverpool
400 dms, J Lee & Co, Servia, Liverpool
200 dms, J Lee & Co. City of Chicago, Liverpool
400 dms, J Lee & Co, Italy, Liverpool
500 dms, J Lee & Co, Olive Branch, Liverpool
CHLO—50 kgs, C of Chester, Liverpool
50 kgs, J L & D S Riker, C of Chicago, Liverpool
NITRATE—1 bbl, 2 cs, Spaarndam, Rotterdam
13,307 bgs, Osbergor, Taltai
2,230 bgs, Devonia, Glasgow
SAL—140 cks, Wing & Evans, Italy, Liverpool
140 cks,Wing & Evans, Olive Branch, Liverpool
140 cks, Wing & Evans, Servia, Liverpool
CONCENTRATED—60 cks, Wing & Evans, Olive Branch, Liverpool
YELLOW PRUS—18 cks, Westernland, Antwerp
STRONTIA NITRATE—12 kgs, Holland, London
SUMAC EXT—61 bbls, Westernland, Antwerp
TANNIN—1 cs, Scandia, Hamburg
TAPIOCA—10 bls, 1,330lb, Olbers, Rio
TARTAR—62 bgs, 15,905lb, La Champagne, Havre
TERRA ALBA—253 tons, Nevada, Glasgow
TURMERIC—300 pkts, Richmond Hill, London
ULTRAMARINE—10 cs, Spaarndam, Rotterdam
10 cks, Aller, Bremen
UMBER—1 ck, 324lb, Jersey City, Bristol
15 cks, 10,248lb, Trinacria, Leghorn
VANILLA BEANS—34 cs, 117lb, Iolain, Martinique
9 cs, Germanic, Liverpool
VENETIAN RED—300 cks, Galileo, Hull
WHALEBONE—1 cs, La Champagne, Havre
WHITE LEAD—1 ck, Scandia, Hamburg
165 cks, 38,850lb, Richmond Hill, London
10 bbls, 60 kgs, 11,200lb, Richmond Hill, London
8 cks, 80 kgs, 13,440lb, Richmond Hill, London
YELLOW BERRIES—28 bgs, Umbria, Liverpool
ZINC OXIDE—175 cs, 3,580lb, Spaarndam, Rotterdam
100 bbls, 22,046lb, Apollo, Hull
100 bbls, Gellert, Hamburg

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WAREHOUSED.

ANILINE COLORS—30 pgs, Noordland, Antwerp
6 cks, 1 cs, La Champagne, Havre
DYE—31 cks, 4 cs, Scandia, Hamburg
BRONZE POWDER—4 cs, 1,800lb, Saale, Bremen
2 cs, 658lb, Aller, Bremen
CHEMICAL COMPOUND—4 cs, G Mannering, Yokohama
5 cs, La Champagne, Havre
DEXTRINE—50 bgs, 10,830lb, India, Stettin
DYEWOOD—10 cs, La Champagne, Havre
GERANIUM LAKE—1 ck, Holland, London

Aniline Salts. Oxalic Acid. Chlorate of Potash. Zinc Dust. Indigo Auxiliary. Blood and Egg ALBUMEN. niline Colors.

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J. HAUFF'S SALICYLIC ACID.

Aniline Oil. Carbonate of Ammonia. SALICYLIC ACID. Archil Extract. Indigo Extract. Alizarine.

GELATINE—7 cs, P Caland, Rotterdam
1 cs, Apollo, Antwerp
GLASS L G PLATE—38 cs, 20,762ft, Spaarndam, Rotterdam
16 cs. 8,167ft, P Caland, Rotterdam
WINDOW—1,153 cs, 74,705lb, Noordland, Antwerp
GLUE—53 cks, Galileo, Hull
1 ck, Croma, Dundee
GLYCERINE—68 dms, Holland, London
KING'S RED—10 kgs, Noordland, Antwerp
LEAVES—32 bbls, California, Trieste
MENTHOL—10 cs, G Mannering, Shanghae
OIL ESSENTIAL—2 cs, Holland, London
PERFUME—1 cs, La Champagne, Havre
POTATO FLOUR—450 bgs, 99,471lb, India, Stettin
SODA—2 cks, Thingvalla, Copenhagen
CARB—200 kgs, Germanic, Liverpool
SOAP CASTILE—500 bxs, Caledonia, Marseilles
1,000 bxs, Trinacria, Leghorn
SPONGES—14 cs, Germanic, Liverpool
VERMILION—1 ck, Holland, London

IMPORTS AT BOSTON.

For week ending April 4.

ACID CARBOLIC CRYSTAL—8 cks, Virginian, Liverpool
BEESWAX—3 pgs, Virginian, Liverpool
BLEACH—119 cks, J L & D S Riker, Samaria, Liverpool
359 cks, Michigan, Liverpool
193 tcs, Virginian, Liverpool
268 cks, Virginian, Liverpool
CAMPHOR—70 tubs, Borderer, London
CEMENT—500 cks, Borderer, London
500 cks, Borderer, London
1,500 cks, Borderer, London
CHINA CLAY—331 cks, Michigan, Liverpool
20 cks, Michigan, Liverpool
COAL TAR PITCH—165 bbls, Norwegian, Glasgow
COLORS—89 cks, Borderer, London
3 cs, Samaria, Liverpool
FUSTIC EXT—50 cs, Michigan, Liverpool
GLASS PLATE—6 cs, Virginian, Liverpool
GREASE—41 tubs, Samaria, Liverpool
HYPOPHOSPHATE—1 pg, Benj F Hunt, Jr, Melbourne
INDIGO—59 chts, Borderer, London
LOGWOOD—360 tons, Water Witch, St Marco
MOSS—349 bls, Borderer, London
OIL—24 bbls, 4 cs, Samaria, Liverpool
OLIVE—75 bbls, Samaria, Liverpool
PERFUMERY—1 pg, Samaria, Liverpool
2 cs, Samaria, Liverpool
2 cs, Samaria, Liverpool
POTASH MURI—1,000 bgs, 224,000lb, H H Salmon & Co, Stubbenhuck, Hamburg
ROOTS—3 pgs, Benj F Hunt, Jr, Melbourne
SALTCAKE—64 cks, Michigan, Liverpool
SODA ASH—80 cks, J L & D S Riker, Samaria, Liverpool
29 cks, J L & D S Riker, Samaria, Liverpool
800 bgs, Samaria, Liverpool
149 cks, Michigan, Liverpool
158 tcs, Linder & Meyer Virginian, Liverpool
76 cks, 400 bgs, Virginian, Liverpool
1,650 bgs, Linder & Meyer, Virginian, Liverpool
250 bgs, Linder & Meyer, Pavonia, Liverpool
CAUSTIC—50 pgs, Samaria, Liverpool
250 dms, Michigan, Liverpool
SPRUCE GUM—4 bbls, Carroll, Halifax
SULPHUR CRUDE—334 bgs, Virginian, Liverpool

IMPORTS AT NEW ORLEANS.

Week ending April 4.

CANDLES—80 bxs, Dupuy de Lome, Antwerp
275 bxs, Dupuy de Lome, Bordeaux
CAPSULES—23 cs, Dupuy de Lome Bordeaux
OIL—150 cs, Dupuy de Lome, Antwerp
425 cs, Dupuy de Lome, Bordeax
SODA CAUSTIC—20 dms, Dupuy de Lome, Havre
69 dms, Dupuy de Lome, Antwerp
STEARINE—10 cs, Dupuy de Lome, Antwerp
19 cs, Dupuy de Lome, Bordeaux

IMPORTS AT BALTIMORE.

For week ending April 4.

ACID CARBOLIC CRYSTALS—24 bbls, Queensmore, Liverpool
BARYTES—23 cks, America, Bremen
CEMENT—2,000 casks Nessmore, London
COAL TAR—1,200 cks, Amarynthia, Girsgow
MANURE SALT—1,500 bgs, America, Bremen
PAINT—315 bgs, Queensmore, Liverpool
PEPPER—152 bgs, Nessmore, London
PHOSPHATE GROUND—2,100 bgs, Rialto, Antwerp
PITCH—502 cks, Nessmore, London
SALT CAKE—406 cks, Queensmore, Liverpool
SALTPETER—3 pgs, Queensmore, Liverpool
SODA ASH—338 cks, Queensmore, Liverpool
NITRATE—803 bgs, Queensmore, Liverpool

IMPORTS AT PHILADELPHIA.

Week ending April 6.

ACID CARBOLIC—10 dms, Ohio, Liverpool
AMMONIA SULPHATE—500 bgs, Hibernian, Glasgow
BRIMSTONE—2,500 tons, Enripides, Girgenti
ESSENCE—25½ cs, Euripides, Girgenti
LOGWOOD—80 tns, J M Sharpless & Co, Virginia, Kingston
OIL OLIVE—60 bls, Euripides, Girgenti
1 cs, Euripides, Girgenti
PALM—26 cks, Ohio, Liverpool
POTASH BICH—50 cks, J L & D S Riker, Hibernian, Glasgow
SOAP—300 bxs, Ohio, Liverpool
SODA ASH—85 cks, Ohio, Liverpool
37 cks, Ohio, Liverpool
538 tcs, Wing & Evans, Ohio, Liverpool
132 cks, Ellis Yarnall & Son, Ohio, Liverpool
BICARB—25 cks, J L & D S Riker, Hibernian, Glasgow
SUMAC—200 bgs, Euripides, Girgenti

IMPORTS AT CHARLESTON.

Week ending April 4.

BRIMSTONE—550 tons, San Michele, Catania

IMPORTS AT SAN FRANCISCO.

Week ending Mar. 25.

BEESWAX—1 bx, Tropic Bird, Tahiti
BRIMSTONE—710 tons, Quickstep, Shanghae
EARTH PAINT—5 pgs, San Blas, Panama
FLAXSEED—1,880 sks, Walla Walla, Puget Sound
GLYCERINE—9 dms, Mariposa, Sydney
165 dms, San Blas, Europe
GUM KAURI—102 bgs, 12 cs, Mariposa, Auckland
OPIUM—1 cs, Umatilla, Puget Sound
OIL CASTOR—2 pgs, San Blas, Panama
OLIVE—127 pgs, San Blas, Europe
PAINT—10 pgs, San Blas, Panama
PARAFFINE WAX—120 bbls, San Blas, Panama
PIMENTO—25 bgs, San Blas, Panama
POTASH—3 kgs, San Blas, Panama
SEED—8 bgs, Mariposa, Sydney
SOAP—400 bxs, San Blas, Panama
TALLOW—98 tins, Walla Walla, Puget Sound
366 cans, Umatilla Puget Sound
VANILLA—22 tins, Tropic Bird, Tahiti
VARNISH—7 pgs, San Blas, Panama
VASELINE—5 pgs, San Blas, Panama

WITHDRAWALS FROM BOND.

Aniline, pgs	8
Aniline colors, pgs	39
Aniline dyes, pgs	21
Bay rum, cks	2
Cocoa butter, pgs	28
Corks, bls	12
Cement, cks	700
Coal tar colors, pgs	10
Dyewood extract, pgs	19
Dextrine, cks	100
Glucose, cks	3
Gelatine, cs	10
Glass window, cs	150
Glass looking plate, cs	9
Indigo ult, ck	1
Lakes, cks	12
Matches, cs	105
Magnesia carb, cs	15
Oil essential, cs	2
Oil olive, cs	10
Oil myrbane, cs	20
Paint, pgs	43
Pine tree seed, cs	5
Perfumery, cs	5
Pomade, cs	1
Soap, bxs	50
Soap castile, cs	272
Sponges, bls	109
Ultramarine, cks	15

TOTAL DOMESTIC RECEIPTS.

FOR WEEK ENDING APRIL 4, 1891.

		For week.	Since Jan 1.
Alcohol	bls.	325	5,616
Beeswax	pkgs.	2	47
Bones	pkgs.	13	101
Borax	pkgs.	..	3,948
China clay	cks.	166	1,239
Cottonseed	bags.	..	989
Meal	bgs.	1,337	13,647
Cake	bgs.	1,200	3,135
Flaxseed	bu.	..	84,400
Grease	pkgs.	1,091	14,669
High Wines	bbls.	1,985	21,385
Lead	pigs.	15,399	98,869
Mustard seed	bgs.	..	37,772
Oil, Cottonseed	bbls.	4,485	56,091
Lard	bbls.	81	3,011
Lubricating	bbls.	1,133	40,284
Cake	bags.	1,211	74,113
Oleo stock	pkgs.	120	14,507
Pitch	bbls.	275	1,210
Quicksilver	flks.	..	2,250
Rosin	bbls.	3,091	111,397
Stearine	pkgs.	36	7,899
Sumac	bags.	1,826	2,662
Tallow	pgs.	1,707	5,040
Tar	bbls.	314	8,451
Turpentine, crude	bbls.	20	796
spirits	bbls.	819	17,635

NEW YORK DOMESTIC RECEIPTS

For week ending April 4.

ALCOHOL—65 bbls, B & O RR
260 Penn RR
BEESWAX2 pgs, str, New Orleans
3 pgs, str, Richmond
BONES—13 hhds, str, New Orleans
CLAY—166 cks, str, Charleston
ASHES—2,008 bgs, str, N O
MEAL—1,337 bgs, str, Savannah
GREASE—48 bbls, str, Richmond
306 pgs, N R boats
90 pgs, Erie RR
88 pgs, D, L & W RR
245 pgs, L V RR
123 pgs, C RR of N J
53 pgs, Housatonic RR
86 pgs, Penn RR
100 pgs, H RR
GLUE STOCK—30 pgs, str, New Orleans
HIGHWINES—550 bbls, Penn RR
1,300 bbls, B & O RR
135 bbls, D, L & W RR
LEAD—3,743 pigs, Erie RR
2,100 pigs, str, Galveston
5,164 pigs, Penn RR
4,392 pigs, L V RR
MOSS—59 bls, str, New Orleans
OLEO STOCK—120 bbls, Penn RR
OIL CAKE—240 bgs, H RR
696 bgs, Penn RR
275 bgs, N R boats
COTTONSEED—351 bbls, str, New Orleans
1,573 bbls, str, Savannah
1,380 bbls, str, Richmond
59 bbls, str, Galveston
208 bbls, str, Fernandina
370 bbls, str, Charleston
TANKAGE—123 bbls, str, New Orleans
LARD—3 bbls, Balt Inland Line
78 bbls, H R RR
LUB—953 bbls, Erie RR
180 bbls, C RR of N J
60 bbls, D, L & W RR
PITCH—200 bbls, str, Savannah
75 bbls, str, Wilmington
ROSIN—1,496 bbls, str, Savannah
834 bbls, str, Richmond
34 bbls, str, Fernandina
19 bbls, str, Brunswick
50 bbls, str, Charleston
637 bbls, str, Georgetown
21 bbls, str, Wilmington
SARSAPARILLA—6 bls, str, New Orleans
SOAP—150 bbls, str, New Orleans
STOCK—250 bbls, str, New Orleans
STARCH—125 pgs, Erie RR
STEARINE—26 pgs, Penn RR
SUMAC—1,836 bgs, str, Richmond
TALLOW—180 bbls, str, Richmond
108 pgs, H R RR
172 pgs, Penn RR
106 pgs, D, L & W RR
140 pgs, N Y, W S & R RR
322 pgs, L V RR
158 pgs, C RR of N J
35 pgs, Vermont C RR
183 pgs. N R boats
9 pgs, Erie RR
107 pgs, Housatonic RR
175 pgs, B & O RR
12 pgs, N Y, O & W RR
TAR—34 bbls, str, Richmond
230 bbls, str, Wilmington
TURPENTINE—83 bbls, str, Richmond
10 bbls, str, Fernandina
218 bbls, str, Brunswick
114 bbls, str, Charleston
25 bbls, str, Savannah
160 bbls, str, Georgetown
200 bbls, str, Wilmington
CRUDE—20 bbls, str, Wilmington

BOSTON DOMESTIC RECEIPTS.

For week ending April 4.

GREASE—239 bbls, B & A RR
16 bbls, B & P RR
147 bbls, B & M RR
65 bbls, O C RR
91 bbls, F RR
38 bbls, N Y & N E RR
44 bbls, by Sea
OLEO—1,279 bgs, B & O RR
1,259 pgs, B & P RR
1,075 pgs, F RR
3,481 pgs, B & M RR
TALLOW—137 bbls, O C RR
129 bbls, F RR
456 bbls, B & A RR
151 bbls, B & P RR
66 bbls, B & M RR
10 bbls, by Sea
360 bbls, N Y & N E RR

NEW ORLEANS DOMESTIC RECEIPTS.

For week ending April 4, 1890.

ALCOHOL—77 bbls, 6 hf bbls, Ill C RR
1 car, L, N O & T RR
ASPHALT—173 bbls, S P RR
BONES—2 car, T & P RR
BORAX—113 bbls, S P RR
BOTTLES—1 car, N O & N E RR
CANDLES—25 bxs, str, Cincinnati
2 cars, N O & N E RR
CARBONS—1 car, L & N RR
COTTONSEED—2,709 sks, str, Shreveport
3,265 sks, str, Eason Ferry
4 car, L, N O & T RR
5,348 sks, str, Vicksburg
272 sks, str, Monroe
407 sks, str, West Melville
625 sks, str, Bayou Sara
800 sks, str, Washington
ASHES—536 bgs, S P RR
HULLS—12 cars, S P RR
MEAL—3,900 sks, str, Shreveport
26 cars, L N O & T RR
400 sks, T & P RR
5 sks, S P RR
FERTILIZER—4 cars, L N O & T RR
666 sks, L & N RR
FLAXSEED—5 bbls, St Louis
GLUCOSE—90 bbls, Ill Cent RR
GASOLINE—3 cars, N O & N E RR
GUANO—374 sks, T & P RR
550 sks, L & N RR
GLUCOSE—100 bbls, Ill C RR
1 car, L, N O & T RR
MOSS—19 bls, str, Lockport
155 bbls, S P RR
67 bls, str, Bayou Sara
9 bls, str, Washington
20 bls, N O & Gulf RR
OIL CAKE—1 car, 13 sks, T & P RR
8 cars, L N O & T RR
COTTONSEED—4 cars, T & P RR
7 cars, L N O & T RR
62 bbls, L & N RR
1 car, N O & N E RR
110 bbls, S P RR
65 bbls, str, St Louis
PITCH—2 cars, N O & N E RR
ROSIN—400 bbls, str, Monticello
SOAP—2 cars, L, N O & T RR
100 bxs, str, St Louis
STOCK—215 bbls, S P RR
21 bbls, str, Vicksburg
STARCH—780 bxs, str, Cincinnati
TALLOW—49 bbls, 24 cs, S P RR
1 bbl, str, Bayon Sara
TAR—1 car, N O & N E RR
1 bbl, L & N RR
WHITING—85 bbls, L & N RR

EXPORTS FROM NEW YORK FOR THE WEEK ENDING APRIL 4.

ACID—20 cbys $70 Cienfuegos, St Jago
50 cbys $200 Orizaba, Havana
CARBOLIC—2 bbls $30 Cienfuegos, Nassa
MURI—100 cbys $282 Cienfuegos, Cienfuegos
SULPH—2 dms, Alps, Trinidad
ALCOHOL—941 gls $280 Trinidad, Hamilton
ANISEED—2 bgs $29 Alps, Trinidad
ANTIMONY—14 pgs $150 Boston City, Newcastle
BARK EXT—2 cs $131 Scandia, Hamburg
CANDLES—30 bxs $83 Kjarten, Montevideo
20 bxs $23 Panama, Carthagena
40 cs, $48 Ailsa, Carthagena
30 cs $86 Ailsa, St Marc
CARBON—1,445lb $90 Russia, Hamburg
470lb $45 Colorado, Hull
150 bbls $750 Canada, London
22 bbls $164 Scandia, Hamburg
BLACK—55 bbls $385 Russia, Hamburg
CASCARILLA BARK—45 bls $280 L Monarch, London
COAL TAR—10 bbls $58 Ailsa, Savanilla
CORIANDER SEED—10 bgs $98 Alps, Trinidad
CUMMIN SEED—5 bgs $89 Alps, Trinidad

POWDERED OPIUM-MERCK
Cont. 15.2 Per Cent. Morphine
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71 and 73 William Street.

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For RAILROAD, MILL and MINING MACHINERY

Export and Domestic Trade

Uniformity and Quality Guaranteed. Having Large Facilities, Orders will be Executed Promptly. Samples and Catalogues Furnished.

COTTONSEED MEAL—2,500lb $34 Alps, Trinidad
COPPER PAINT—11 cs $149 State of Georgia, Glasgow
6 cs $66 B Webster, Adelaide
4 cs $55 St Enoch, Liverpool
CUTCH—300 bgs $4,680 Holland, Liverpool
DYEWOOD—5 pgs $39 Orizaba, Vera Cruz
EXT—66,519lb $5,134 Russia, Hamburg
5,000lb $1,500 Russia, Hamburg
12,704lb $751 Holland, London
34,440lb 2,642 Noordland, Antwerp
EARTH PAINT—12 pgs $20 Lucerne, St John N B
FERTILIZER—13 bgs $18 Scandia, Hamburg
FISH WAX—3,124lb $1,113 Scandia, Hamburg
GREASE—43,618lb $2,175 Russia, Hamburg
50,035lb $2,093 Russia, Hamburg
30,733lb $1,459 Russia, Hamburg
6,50/lb $150 B Webster, Adelaide
24,489lb $3,300 L Monarch, London
23,036lb $1,152 Caledonia, Valencia
7,800lb $156 Walter Miller, St John N B
12,000lb $175 Devonia, Glasgow
3,937lb $100 Richmond Hill, London
864lb $17 City of Washington, Havana
54,491lb $2,384 Noordland, Antwerp
150lb $45 Noordland, Antwerp
168,600lb $7,800 Olbers, Buenos Ayres
37,950lb $1,870 Colorado, Hull
21,854lb $586 Scandia, Hamburg
22,547lb $1,050 Scandia, Hamburg
47,680lb $2,250 Scandia, Hamburg
GOLDEN SEAL ROOT—2 bls $183 Russia, Hamburg
GLUCOSE—50 bbls $809 Colorado, Hull
50 bbls $815 Italia, Bristol
95 bbls $1,455 Italia, Bristol
50 bbls $735 Wells City, Bristol
58 bbls $875 Colorado, Hull
GLUE—6 bbls $177 Maggie Abbott, Port au Prince
GRAPE SUGAR—5,000lb $1,540 Italia, Avonmouth
28,000lb $735 L Monarch, London
44,800lb $1,233 City of Chester, Liverpool
JALAP—6 bgs $185 La Champagne, Havre
JAPAN—507 gls $219 Russia, Hamburg
LIME ACETATE—1,572 bgs $4,683 Russia, Hamburg
2,180 bgs $5,200 St Enoch, Liverpool
1,304 bgs $2,704 Sorrento, Antwerp
357 bgs $649 L Monarch, London
294 bgs $808 Noordland, Antwerg
1,378 bgs $3,930 Scandia, Hamburg
LOGWOOD—1 00lb $90 Kjartan, Montevideo
CHIPS—1,698lb $32 Kjartan, Montevideo
POWDERED—5 bbls $21 Panama, Santiago de Cuba
MALT EXT—18 bxs $119 Miranda, St John
MATCHES—12 cs $108 Maggie Abbott, Pt au Prince
OIL—751 gls $265 Habil, Fremantle
2,500 gls $1,000 Orizaba, Progresso
ALMOND—1 bbl $24 Panama, La Guayra
5 cs $30 Panama, La Guayra
BEEF—46,759 gls $5,142 Spaarndam, Rotterdam
CAKE—380 bgs $3,316 Italia, Bristol
365 bgs $3,416 Italia, Bristol
1,175 bgs $3,416 Italia, Bristol
380 bgs $3,500 Italia, Bristol
750 bgs $2,958 Olbers, Liverpool
4,606 bgs, 17,926 Wells City, Bristol
1,153 bgs $2,400 Sorrento, Antwerp
1,580 bgs $6,650 Olbers, Liverpool
698 bgs $2,450 Olbers, Liverpool
3,352 bgs $14,990 Canada, London
1,832 bgs $5,496 Canada, London
ESS—31 cs $2,475 L Monarch, London
MEAL—25 bgs, $43 Alps, Trinidad
25 bgs $44 Alps, Trinidad
600 bgs $1,030 Alps, Trinidad
10 bgs $31 Alps, Grenada
20 bgs $52 Alps, Grenada
COTTONSEED—1,250 gls $479 Sunlight Demerara
997 gls $409 Salerno, Rio Janeiro
499 gls $203 Salerno, Santos
2,600 gls $960 Russia, Hamburg
134 gls $96 Alps, Td Bolivar
50 gls $20 Alps, Grenada
50 gls $80 Orizaba, Progresso
27,694 gls $8,000 Caledonia, Barcelona
19,216 gls $6,800 Caledonia, Piracus
1,250 gls $600 Daylight, Guadeloupe
5,057 gls $1,694 Noordland, Antwerp
4,813 gls $1,732 Olbers, Buenos Ayres
1,555 gls $771 Colorado, Hull
COD LIVER—500 gls $370 Salerno, Pernambuco
867 gls $1,482 Kjartan, Montevideo
596 gls $185 B Webster, Adelaide
1,192lb $303 Olbers, Montevideo
LARD—52 gls $28 Alps, Grenada
96 gls $45 Habil, Freemantle
1,000 gls $640 C of Para, Colon
2,585 gls $1,394 L Monarch, London
1,766 gls $971 Richmond Hill, London
53 gls $32 Georgie D Paine, Nassau
LUBRICATING—10,163 gls $5,082 Salerno, Rio Janeiro
998 gls $450 Salerno, Pernambuco
974 gls $719 Kjarton, Montevideo
9,477 gls $907 Russia, Hamburg
5,463 gls $1,025 Russia, Hamburg
5,463 gls $1,025 Russia, Hamburg
2,000 gls $250 B Webster, Adelaide
144 gls $45 B Webster, Adelaide
4,200 gls $850 Noordland, Antwerp
3,750 gls $367 Colorado, Hull
9,800 gls $800 Italia, Avonmouth
200 gls $83 Alps, Trinidad
36,731 gls $5,339 Saint Enoch, Liverpool
1,248 gls $260 Habil, Freemantle
37,914 gls $3,630 Sorrento, Antwerp
29,518 gls $2,895 Wyoming, Liverpool
6,680 gls $1,200 L Monarch, London
1,237 gls $175 Spaarndam, Rotterdam
3,075 gls $309 Caledonia, Caglioni
1,250 gls $725 Caledonia, Naples
1,479 gls $210 La Champagne, Havre
6,858 gls $558 Miranda, Halifax
37,480 gls $4,500 City of Chester, Liverpool
33,593 gls $4,860 Noordland, Antwerp
250 gls $90 Noordland, Antwerp
4,970 gls $600 Canada, London
1,250 gls $2,500 Scandia, Hamburg
14,935 gls $3,640 Scandia, Hamburg
37,450 gls $4,500 Scandia, Hamburg
2,005 gls $585 Ailsa, Savanilla
LINSEED—398 gls $234 Maggie Abbott, Port au Prince
180 gls $109 Maggie Abbott, Pt au Prince
4,962 gls $290 Cienfuegos, St Jago
150 gls $92 Johannes Brun, Nassau
30 gls $34 Orizaba, Vera Cruz
MACHINE—300 gls $144 Maggie Abbott, Pt au Prince
692 gls $223 Maggie Abbott, Pt au Prince
46 gls $28 Georgie D Paine, Nassau
MINERAL SPERM—1,028 gls $123 Ailsa, Savanilla
NEATSFOOT—109lb $8 Miranda, St John's
OLEO—9,264 gls $6,800 Russia, Hamburg
PALM—385 gls, $13,490 Para, Colon
SPERM—1,008 gls $766 S of Georgia, Glasgow
TALLOW—500 gls $200 Orizaba, Progreso
98 gls $47 City of Washington, Progresso
WINTERGREEN—2 cs $224 Orizaba, Vera Cruz
OPIUM—4 cs $1,500 Orizaba, Havana
PARAFFINE WAX—24,889lb $1,486 Russia, Hamburg
6,544lb $427 Orizaba, Vera Cruz
8,100lb $600 Orizaba, Progresso
114,880lb City of Chester, Liverpool
PETROLEUM JELLY—11,253lb $488 L Monarch, London
PEPPER—5 bgs $64 Panama, Santiago
PITCH—5 bbls $8 Cienfuegos, Nassau
10 bbls $17 Alps, Trinidad
5 bbls $9 Alps, Trinidad
10 bbls $25 Miranda, Halifax
15 bbls $26 Retriever, Harbor Briton
3 bbls $5 Ailsa, Savanilla
POTASH 2 bbls $90 Alps, Trinidad
600 bxs $1,100 Olbers, Liverpool
PEARL ASH—1 ck $47 Alps, Trinidad
PUMICE STONE—3 bbls $22 Orizaba, Havana
ROOTS—22 bls $1,182 Russia, Hamburg
34 bgs $76 Germanic, Liverpool
6 bbls $330 Caledonia, Naples
5 pgs $76 Scandia, Hamburg
ROSIN—200 bbls $910 Kjartan, Montevideo
200 bbls $985 Kjartan, Montevideo
105 bbls $545 Galathea, Adelaide
18 bbls $72 Alps, Trinidad
50 bbls $185 Habil, Fremouth
100 bbls $390 Orizaba, Havana
3 bbls $9 Iolani, Guadeloupe
807 bbls $2,500 Colorado, Hull
SASSAFRAS ROOT—20 bls $1,140 Colorado, Hull
STARCH—250 bxs $355 Kjartan, Montevideo
13,000lb $370 Richmond Hill, London
19,081lb $1,116 Canada, London
STEARINE—19,350lb $1,113 City of Para, Colon
SULPHUR FLOWERS—5 bbls $16 Pto Cabello
SOAP—4,400 bxs $2,553 Maggie Abbott, Port au Prince
67 bxs $199 Kjartan, Montevideo
132 bxs $374 B Webster, Adelaide
661 bxs $1,870 Galathea, Adelaide
400 bxs $232 Mineola, Aux Cayes
23 bxs $68 Johannes Brun, Nassau
700 bxs 32 crts $3,315 Wells City, Bristol
250 bxs $1,000 L Monarch, London
112 bxs $354 Miranda, St John
55 bxs $25 Ailsa, Carthagena
400 bxs $206 Ailsa, Jeremie
250 bxs $135 Ailsa, Jeremie
1,1150 bxs, $667 Ailsa, Hayti
SPONGE—86 bls $2,600 Noordland, Antwerp
98 bls $4,225 L Monarch, London
29 bls $1,240 LaChampagne, Havre
SODA ASH—3 cks Cienfuegos, St Jago
2 cks Panama, La Guayra
CAUSTIC—4 dms $110 Cienfuegos, St Jago
12 dms $330 Cienfuegos, Cienfuegos
20 dms $540 Cienfuegos, Cienfuegos
4 dms $108 Alps, Trinidad
7 dms $165 Alps, Trinidad
10 dms $255 City of Para, Colon
5 dms, C of Washington, Vera Cruz
SILICATE—35 bbls $238 City of Para, Colon
TALLOW—3,900lb $275 Sunlight, Demerara
16,555lb $815 S of Georgia, Glasgow
65,906lb $3,550 S of Georgia, Glasgow
95,782lb $4,790 Italia, Bristol
2,362 $140 Cienfuegos, Cienfuegos
1,000lb $68 Alps, Trinidad
132,619lb $6,010 Olbers, Liverpool
18,817lb $1,035 S of Para, Colon
188,358lb $2,154 L Monarch, London
8,920lb $400 Orizaba, Progresso
8,000lb $350 Orizaba, Vera Cruz
51,800lb $2,331 Caledonia, Piracus
1,726lb $104 Iolani, Guadeloupe
4,268lb $208 C of Washington, Vera Cruz
4,268lb $208 C of Washington, Progresso
53,036lb $2,700 Olbers, Buenos Ayres
58,000lb $3,200 Colorado, Hull
265,904lb $11,822 Colorado, Hull
85,093lb $4,131 Colorado, Hull
TAR—10 bbls $41 Cienfuegos, Nassau
5 bbls $14 Alps, Trinidad
5 bbls $15 Alps, Grenada
20 pbls $44 Miranda, Halifax
26 bbls $68 Retriever, Harbor Briton
25 bbls $118 C of Washington, Vera Cruz
3 bbls $8 Ailsa, Savanilla
TURPENTINE—180 gls $83 M Abbott, Pt au Prince
288 gls $140 B Webster, Adelaide
490 gls $245 B Webster, Adelaide
96 gls $50 B Websres, Adelaide
960 gls $460 Habil, Freemantle
908 gls $481 Habil, Nelson
1,150 gls $532 Kjarten, Montendeo
150 gls $62 Vale Royal, Jamaica
478 gls $178 Miranda, Halifax
99 gls $42 Retriever, Harbor Briton
101 gls $44 Alena D Covert, St Johns, N F
50 gls $29 Ailsa, Savanilla
VASELINE—605lb $93 Kjartan, Montevideo
11,250lb $2,991 L Monarch, London
360lb $20 Colorado, Hull
VARNISH—150 pgs, $24 Kjartan, Montevideo
413 gls $605 Russia, Hamburg
50 gls $30 Cienfuegos, St Jago
120 gls $290 L Monarch, London
VITRIOL—150 bxs $891 Orizaba, Vera Cruz
WHALEBONE—2,000 lb $2,400 Scandia, Hamburg
WAX—28,560lb $940 L Monarch, London
WITCH HAZEL—3 bbls $171 Russia, Hamburg

Boston Exports.

Week ending April 4.

BONES—132 sks, Grimm, Antwerp
CANDLES—25 bxs, Eugene Hale, Surinam
CEMENT—50 bbls, Ethelred, Pt Antonio
CUTCH EXT—10 bbls, Roman, Liverpool
DRY PAINT—4 bbls, Sepete, St Pierre
DYESTUFF—1,000 bxs, 15 bbls, Ripon City, Rotterdam
DYEWOOD—5 bbls, Carroll, Halifax
FERTILIZER—22 bgs, Yarmouth, Yarmouth
1,000 bbls, 200 bgs, Energy, St Andrews, N B
GAMBIER—3 bls, Sepete, St Pierre
GLUE—18 cts, Cephalonia, Liverpool
GREASE—135 bbls, Grimm, Antwerp
227 bbls, Ripon City, Rotterdam
248 tcs, Roman, Liverpool
MATCHES—16 cs, Eugene Hale, Surinam
30 cs, Charles Morford, Cayenne
11 cs, Sepete, St Pierre
OIL—8 bbls, Libbie, Lockport
50 bbls, Columbian, Liverpool
4 bbls, Champion, St Jaques, N F
CAKE—346 bgs, Ripon City, Rotterdam
570 sks, Columbian, Liverpool
25 bgs, Greta, Liverpool, N S
300 sks, Sarmatian, Glasgow
COTTONSEED—50 bbls, Navarro, London
LUB—13 bbls, Carroll, Halifax
TALLOW—245 tcs, Ripon City, Rotterdam
PAINT—7 pgs, Yarmouth, Yarmouth
20 cs, Yarmouth, Yarmouth
PITCH—1 bbl, Libbie, Lockport
5 bbls, Yarmouth, Yarmouth
POTASH—10 cs, Charles Morford, Cayenne
SEED—5 pgs, Yarmouth, Yarmouth
SODA ASH—2 cks, Carroll, Halifax

J. L. & D. S. RIKER

62 & 64 Cedar Street New York

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GREASES for Export.

We are now making **GREASES** for Export a specialty, having erected Large Works for that purpose.

We Guarantee our **Lubricating** and **Axle Greases** as being **Second** to **None** in point of **Quality**, and offer them at **Most Advantageous Prices.**

Thompson & Bedford Co
(Limited.)

128 Pearl Street, New York.

STARCH—25 bxs, Sarmatian, Glasgow
TALLOW—119 bbls, 228 tcs, Grimm, Antwerp
3 hhds, Ripon City, Rotterdam
75 hhds, Cephalonia, Liverpool
3 bbls, Sepete, St Pierre
68 hhds, Roman, Liverpool
100 bbls, Columbian, Liverpool
TAR—2 bbls, Libbie, Lockport
3 bbls, Yarmouth, Yarmouth
12 bbls, Sepete, St Pierre
TURPENTINE—4 bbls, Sepete, St Pierre
WAX—9 cs, Columbian, Liverpool

Philadelphia Exports.
For week ending April 4

CARBON—140 bgs, British Prince, Liverpool
GREASE—300 bbls, Missouri, London
OIL—60 bbls, Manitoban, Glasgow
CAKE—4,000 bgs, Switzerland, Antwerp
925 bgs, Missouri, London
LUB—2,300 bbls, British Prince, Liverpool
800 bbls, Switzerland, Antwerp
500 bbls, Oneota, Dunkirk
1,000 bbls, Missouri, London
TALLOW—80 hhds, Manitoban, Glasgow
200 hhds, British Prince, Liverpool
50 tcs, British Prince, Liverpool
WAX—1,209 bbls, Missouri, London

New Orleans Exports.
For week ending April 4.

COTTONSEED MEAL—7,340 sks, Elsie, Bremen

San Francisco Exports.
Week ending Mar. 26.

BLUESTONE—16,484lb, $825 C of New York Mexico
21,174lb, $1,103 John Worster, Sydney
BORAX—25lb $3 S N Castle, Honolulu
CEMENT—27 bbls, $90 C of New York, Mexico
FERTILIZER—900lb, Mary Winkelman, Honolulu
GLUE—1 bbl $14 C of New York, Mexico
MATCHES—15 tons, $288 Geo H Douglass Butaritari
OIL LUB—4 cs, 20 C of Peking, Japan
MEAL—49 cks, $669 Walla Walla, Victoria
OLIVE—2 cs, $17 C of New York, Mexico
QUICKSILVER—88 flks $4,150 City of New York, Mexico
SAGO—1,354lb $51 City of New York, Mexico
1,122lb $41 Walla Walla, Victoria
224lb $10 Mary Winkelman, Houolulu
SEEDS—4 pgs $38 City of New York, Central America
3 pgs $18 City of New York, Mexico
SOAP—3 bxs $17 City of New York, Mexico
SPICES—6 pgs $92 City of New York, Central America
10 pgs $133 City of New York, Mexico
2 pgs $44 Walla Walla, Victoria
STARCH—280lb $25 City of Peking, China
240lb $17 Geo H Douglas, Butaritari
200lb $16 Mary Winkelman, Honolulu
TALLOW—299lb $10 City of New York, Mexico
WHITE LEAD—1,120lb $40 Geo H Douglas, Butaritari

Charleston Exports.
Week ending April 4, 1891.

ROSIN—2,750 bbls, Bona, Liverpool
2,225 bbls, Hong Kong, Riga

Baltimore Exports
For week ending April 4.

BARK—1,000 bgs, Yesso, Havre
48 bgs, Mississippi, London
EXT—10 bbls, Gothia, Hamburg
50 bbls, Alex Elder, Liverpool
10 bbls, Dresden, Bremen
50 bxs, Dresden, Bremen
DRUGS—20 cs, Montana, London
GLUCOSE—91,783lb, Barrowmore, Liverpool
67,470lb, Alex Elder, Liverpool
185,532lb, Mississippi, London
86,070lb, Montana, London
GRAPE SUGAR—28,000lb, Barrowmore, Liverpool
28,000lb, Mississippi, London
GREASE—85,700lb, Barrowmore, Liverpool
107,310lb, Gothia, Hamburg
117,236lb, Leonora, Liverpool
37,800lb, Leonora, Liverpool
HERBS—1 bale, Mississippi, London
OIL ANIMAL—10,000 gls, Prior, Rio Janeiro
CAKE—226,840lb, Barrowmore, Liverpool
116,900lb, Gothia, Hamburg
24,200lb, Mississippi, London
659,926lb, Mississippi, London
40,160lb, Inflexible, Rotterdam
COTTONSEED—3,600 gls, Gothia, Hamburg
HARLEM—3 gls, Yesso, Havre
LARD—7,200 gls, Dresden, Bremen
6,820 gls, Warwick, Glasgow
LUB—15,588gls, Barrowmore, Liverpool
6,066 gls, Alex Elder, Liverpool
OLEO—75,100lb, Gothia, Hamburg
131,221lb, Inflexible, Rotterdam
VEGETABLE—1,500 gls, Salerno, Rio Janeiro
WHITE—3,119 gls, Gothia, Aamburg
PARAFFINE WAX—116,549lb, Barrowmore, Liverpool
ROSIN—1,000 bbls, Gothia, Hamburg
990 bbls, Dresden, Bremen
STARCH—28,000lb, Mississippi, London
126,500lb, Inflexible, Rotterdam
STEARINE—45,000lb, Gothia, Hamburg
400,000lb, Yesso, Havre
3,900lb, Leonora, Liverpool
TALLOW—107,880lb, Alex Elder, Liverpool
338,953lb, Yesso, Havre
37,646lb, Warwick, Glasgow
51,856lb, Inflexible, Rotterdam
WAX—23,578lb, Montana, London

TOTAL IMPORTS AT NEW YORK.

In the following table we give the total imports and their value at the port of New York for the week ending April 3, 1891:

	Quantity.	Value.
Glass, plate	331	33,000
Glass, window	3,444	6,887
Lookingglass plates	228	42,909
Arsenic	800	3,775
Acid, carbolic	156	3,416
Acid, citric	50	76
Acid, oxalic	35	1,740
Acid, other	160	16,004
Aniline colors	529	37,858
Aniline salt	52	4,478
Ammonia, carb	60	2,040
Ammonia, sal	20	1,731
Ammonia, sulph	2,473	13,675
Alum	200	888
Argols	583	60,097
Albumen	35	2,044
Alizarine	227	17,533
Asphalt		6,255
Balsam copaiba	164	4,980
Balsam tolu	28	659
Balsam, all other	3	350
Bark, Peruvian	1	19
Bark, cinchona	31	1,916
Bark, all other	26	86
Barytes, other, tons	246	504
Bay rum	23	631
Bleaching powder	167	2,879
Brimstone		19,465
Bronze powder		13,243
Butter cocoa	226	11,122
Chalk		947
Cantharides	4	707
Chemical salts	102	2,090
Chicory	695	7,207
Coca leaves	42	1,068
Cobalt	8	3,28
Chloral hydrate	19	786
Colocynth	1	52
Cubebs	25	1,725
Cuttlefish bone	11	207
Dextrine	920	6,555
Dyewood extract	235	8,999
Ergot	13	1,470
Fish sounds	50	2,734
Flowers, insect	64	3,245
Flowers, other	5	69
Fuller's earth	2,704	3,098
Gambier	1,604	20,047
Gelatine	332	8,084
Glucose	15	502
Glycerine	50	2,478
Gum arabic	460	5,085
Gum animi	30	3,173
Gum aloes	72	296
Gum damar	81	1,908
Gum, gamboge	2	140
Gum guiacum	15	200
Gum licorice	20	580
Gum myrrh	10	240
Gum shellac	1,019	32,939
Gum senegal	25	755
Gum tragacanth	331	17,313
Gum, other	16	569
Glue	298	7,154
Gypsum	274	1,288
Insect powder	36	360
Indigo	271	62,639
Indigo, carmine	2	170
Indigo extract	32	1,621
Leeches	7	122
Madder	10	908
Magnesia	27	386
Manure salt		2,674
Mica	1	103
Nutgalls	176	3,517
Nutgall, extract of	5	362
Oxide of zinc	515	5,830
Oil, amber	7	62
Oil, aniline	26	3,751
Oil, almond	70	886
Oil, anise	25	2,376
Oil, bergamot	160	11,514
Oil, caraway	5	263
Oil, cod	50	1,162
Oil, cocoanut	17	2,201
Oil, geranium	2	478
Oil, Haarlem	1	146
Oil, juniper	1	12
Oil, lavender	1	116
Oil, lemon	125	5,050
Oil, neroli	2	1,823
Oil, orange	15	5,816
Oil, olive	2,543	9,[illegible]
Oil, poppy	14	3[illegible]
Oil, rapeseed	20	44[illegible]
Oil, rose	3	1,2[illegible]
Oil, rosemary	13	39[illegible]
Oil, sandlewood	3	36[illegible]
Oil, tanners	269	2,979
Oil, other ess	28	2,791
Oil, all other	502	1,210
Opium	94	33,080
Paints, unspecified		14,353
Paint, Berlin blue	91	3,915
Paint, chrome yellow	1	45
Paint, colcothar	45	443
Paint, drop black	47	1,206
Paint, iron oxide	52	220
Paint, ocher	2	72
Paint, orange mineral	12	375
Paint, rose pink	25	178
Paint, umber	1	5
Paint, Venetian red	400	1,312
Paint, vermilion	23	1,440
Paint, white lead	247	4,744
Pitch	1,353	1,971
Potash, chlorate	250	8,481
Potash, carbonate	56	2,250
Potash, caustic	31	863
Potash, crude	95	3,985
Potash, prussiate	51	6,012
Persian berries, extract	20	1,100
Potato starch	300	1,981
Plumbago	2	79
Quinine	152	20,883
Regulus antimony	84	8,111
Root, ipecac	1	283
Root, jalap	35	4,123
Root, licorice	14	342
Root, sarsaparilla	152	878
Root, other	149	1,673
Salt cake	37	232
Sage leaves	210	1,3[illegible]
Senna	32	66[illegible]
Soda ash	1,591	10,676
Soda, caustic	745	12,414
Soda, nitrate	15,722	60,288
Soda, sal	75	520
Sponges	1,087	11,721
Sumac, extract	25	538
Sugar of milk	1	105
Ultramarine	17	515
Vanilla beans	3	99
Varnish	12	393
Yellow berries, ext	25	706
Chemical instruments	5	430
Optical instruments	10	2,082
Surgical instruments	3	860
Bristles	125	38 524
Rennets	17	2,254
Brandy	874	12,932
Bitters	1,095	6,706
Cordials	465	2,263
Gin	362	1,350
Mineral water	2,265	2,331
Rum	5	141
Whiskey	538	17,018
Bismuth	2	1,751
Dutch metal	14	2,441
Chillies	483	1,609
Cloves	929	10,305
Ginger	203	3,639
Mace	109	6,065
Mustard	351	6,640
Nutmegs	706	33,500
Pepper	962	11,834
Pimento	1,301	7,711
Corkwood		40,459
Empty barrels		80
Fustic		984
Logwood, M lbs	9,994	6,266
Amber		975
Blacking		8
Brushes		19,720
Clay		8,849
Carbon		1,461
Corks		2,125
Cocoa, bgs	2,328	55[illegible]
Cocoa, prep	364	10,021
Hops	99	18,556
Ivory nuts		4,458
Matches	370	2,128
Musk	2	3,428
Portland cement	26,744	41,338
Perfumery	93	14,[illegible]

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DRUG MARKET.

Note—*Our prices are for large lots except when otherwise specified, and buyers of small quantities must expect to pay an advance on these figures.*

The prices current will be found on pages 41 *and* 42.

TUESDAY EVENING, April 7, 1891.

The past week has been one of unusual dullness in the drug market. It is true that the increasing prevalence of the grip has caused an active demand for quinine and the synthetic antipyretics but in the general line of goods there has been little to call for special comment. Taking the market as a whole the tone has been fairly steady, and positive changes in either direction have been few and far between Transactions have been confined almost exclusively to the quantities needed for current consumption, speculative interest, as for some time past, being almost entirely withheld. The financial difficulties through which Italian merchants are now passing are expected to have a considerable effect upon certain products obtained from that country, notably the Messina essences and orris root, all of which are now selling at high prices. As yet, however, this market shows no evidence of a weaker tendency. Our mail advices from London to the 25th. ult., indicate that the approaching Easter holidays had already begun to influence trade. The demand for all lines of goods was reported as quiet. The principal changes in drug prices was an advance in crude camphor, castor oil, olive oil rapeseed oil and shellac, and lower prices for cinchona bark, aniseseed oil, codliver oil, Zanzibar cloves, pepper and pimento. Both opium and quinine were dull and neglected.

In the New York market the principal changes occurring during the past week have been as follows:

ADVANCED.	DECLINED.
Chloral hydrate,	Borax,
Soap bark,	Citric acid, 2d hands,
Oil lemon,	Codliver oil,
Galbanum,	Balsam copaiba,
Colchicum root,	Cubeb berries,
Doggrass,	Jalap,
Calamus, ordinary,	Goldenseal.
Colchicum seed.	Quinine.
	Quicksilver.

Opium.

We have a very dull market to report. Trading is confined almost exclusively to single packages or broken lots, but at the same time the market remains steady, and we find no disposition to force business by making concessions. From Smyrna cables received this morning, reported a considerable business, without quotable change in prices. Later cables state that the primary market is firmer, as a result of the increased demand. On the spot prices are without quotable change, the few sales making being within the range of $2 10@2 15 for natural and $2@2 10 for standardized.

Quinine.

Although the bark sale in Amsterdam last Thursday, which was one of the largest ever held in that market, went off at rather lower figures it did not have the effect on the quinine market that such a result was expected to have. There are liberal buyers here at 20c, but so far as we can ascertain there are no offerings of any considerable quantity below 20½c though occasional sales of 5,000 oz. lots or less have been made at 20¼c. Trading has been confined almost entirely to small lots for actual current requirements, but there have been few or no large purchases. We heard of one sale of 5,000 ozs. at 20¼c, but the bulk of the business has been in smaller quantities. The consuming demand continues brisk on account of the grip, but other antipyretics are sharing the popularity of quinine and consequently the consumption is not so large as it would have been under other conditions. There was a bark sale in London today but it was almost lost sight of because of its comparative insignificance. Of the quantity offered 2,800 bales were sold at previous prices, according to cables received here today. The bark sold represents, it is said, about 200,000 ozs. of quinine. The receipts of quinine at New York during the past week amounted to only 45 cases. On Saturday last the American manufacturers reduced their quotations 2c per oz, making the bulk price 26c.

Miscellaneous.

Alcohol is without further change. There is a good consuming demand and the market is firm at $2 26@2 28, less the discount of 5c per gallon payable at the end of six months.

Borax is easier, owing to increased supplies, and crystals are now quotable at 9¼@9¾c, as to holder and quantity.

Cacao butter is about steady. The sale in Amsterdam to-day went off at steady prices, and consequently had no appreciable effect upon this market.

Citric acid is held steadily at 50c by the manufacturers but second hands offer to sell at 47½@48½c as to quantity.

Cantharides are again reported as higher abroad, the market there seeming to have recovered from the effects of the recent break. Trade here is dull and the market is without quotable change.

Codliver oil seems to favor the buyer. Late advices from the other side quote 68s f. o. b

ESTABLISHED 1794.

W. H. Schieffelin & Co.,

Wholesale Druggists and Manufacturing Chemists,

170 & 172 William St.,

LABORATORY AND DRUG MILLS:

400 & 402 Front St., and 697 & 699 Water St.

NEW YORK,

OFFER:

CARNAUBA WAX.

CARBONATE OF AMMONIA, English and American.

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COCAINE and its Preparations.

The attention of Buyers is invited.

Orders and Correspondence Solicited.

QUININE.

Our Own (AMERICAN) Manufacture.

25c. per oz. in 5 oz. cans. (No larger packages sold.) 28c. for 1 oz. tins. 30c. for 1 oz. vials.

N. Y. Quinine and Chemical Works,

114 William Street, New York, (LIMITED).

Acetanilid, Aloin, Cocaine, Morphine, Quinine, Santonine, etc.

The above quotations refer to Quinine in quantities of not less than 100 ozs.

McKESSON & ROBBINS,

Sole Agents for the United States for the Sale of

EXALGINE, The New Analgesic.

DIURETIN, The New Diuretic.

ROSENGARTEN & SONS, 12 Gold Street, New York.

MANUFACTURING CHEMISTS, Philadelphia.

Sulphate of Quinine, Aqua Ammonia, Sulphate of Morphine, C. P. Acids, Bromides, Iodides, Ether, Res. Iodine.

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Mannheim, Germany, and 15 Cedar Street, New York.

Sulphate of Quinine,

Acetanilid, [Antifebrin.]

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on spot and for future delivery, in quantities to suit at lowest market quotations.

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CERIUM OXALATE. Made by the Welsbach Light Co.

CINCHONIDIA SULPHATE. Boehringer & Sons' make.

CUDBEAR AND LIQUID ARCHILL. Best English.

CUM OLIBANUM. Prime tears.

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LEAVES. Damiana, Matico, Pichi.

LITHIA CARBONATE. Pure quality, made by Knoll & Co., Ludwigshafen.

MENTHOL. Prime dry quality in 5 lb. tins, cases 80 lbs.

NAPHTHALINE. Best English flake balls and cakes.

POTASH CHLORATE. English crystals and powder, spot and to arrive

POTASH PERMANGANATE. We have a parcel now on the way.

OIL PEPPERMINT. Pure American in tins, H. G. H. brand, Japan.

QUININE. Boehringer, Brunswig, Gold & Silver, and Milan.

ROOTS. Senega, Serpentaria, Mexican Sarsaparilla, Valerian.

We offer the above from Stock, and solicit inquiries.

PURE DALMATIAN

UNCOLORED

INSECT POWDER

S. & F. Brand.

We beg to call renewed attention to above brand of strictly pure and prime Insect Powder, claiming that it is the best brand in the market, and we recommend it with confidence to the trade. It is put up in iron-bound oak kegs containing 110 pounds each. Each keg bears our label and guarantee; also burnt in the wood on one end of the keg the following

S. & F.

CLOSED.

110 POUNDS NET.

It is also put up in cans of ten pounds, one pound and quarter pound, each can bearing our label and guarantee. Our price will be at least as low as any powder of equal quality can be sold. To meet the competition of the trade, we offer a pure powder produced from a rather lower grade of flowers at a corresponding reduction in price, under the brand B. & Z., uncolored, in kegs of 120 pounds.

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No. 10 Cold Street,

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For sale by the principal Jobbing Houses.

F. E. McALLISTER,

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22 Dey St. New York.

Canary, Rape and Hemp Seed, Mocking Bird Food, Mixed Bird Seed in cases, Bird Gravel, &c.

REFINED CAMPHOR.

PHILLIPS & RUMNEY BRANDS,

Barrels, Cases (Squares in Paper.)

GOULD COMMERCIAL Co.

BOSTON & NEW YORK

for Norwegian, and here we get sales of about 20 barrels at $36 as against $27 the inside price quoted a week ago. Mail advices from London to the 28th, ult., says: "The tone of the market has been decidedly weaker this week, with much less inclination on the part of buyers to operate. But the weakness of the market appears to be owing rather to speculative influence than to any improved reports from the fisheries. New season's non-congealing oil has been offering at 85s per bbl, c. i. f. terms, but to-day's prices are slightly firmer and 86s for c. i. f. London is the nearest quotation."

Codeia is extremely scarce, the manufacturerers having little or nothing to offer. Small sales from second hands are reported at $4 00.

Chloral hydrate has advanced owing, it is said, to the increase cost of manufacture. We now quote $1 15@1 30 for crystals in bulk as to style of packing and $1 05@1 20 for crusts.

Ergot remains dull, but the market is rather firm at 28@30c for Russian and 32@37c for Spanish as to quality and quantity.

Lycopodium is beginning to attract attention. The stock of Pollitz is said to be exausted on the other side and holders here are firm at 40c, but for outside brands the market is rather easy, 37c being the inside quotation.

Naphthaline balls are extremely scarce and being in demand are firmly held at 4¾@5c. For flake 3¾@4c is quoted. It is possible, however, that these prices would be shaded by some sellers.

Quicksilver is still tending in buyers' favor, the quotation since our last having declined to 61@63c. No business of consequence is reported.

Balsams.

Balsam copaiba is a shade lower, the jobbers having obtained increased supplies from recent arrivals. At the same time there is little left in first hands, the stock in that position consisting of only 24 cases Maracaibo. This is held at 50c, which is above buyers' views. In a jobbing way, Central American grades are now quoted at 50@52½c. Other balsams are without fresh feature of interest.

Barks.

Cascara sagrada is dull and depressed, owing to rather liberal offerings from California at low prices. Buckthorn bark, under a moderate demand, is firmly held at 1½@2c. Soap bark remains scarce, and in spite of efforts to hold the market down the tendency seems to be upward. The nominal quotations on the spot are 9@9½c, but less will buy stock to arrive Sassafras bark is generally held at 9@9½, but in instances 8½c is quoted. The stock is limited.

Essential Oils.

General trade is of a hand to mouth character and there is little in the situation calling for special mention. Of lemon oil quite heavy sales have been made at full prices, the reported transactions amounting to fully 350 cases. The tendency is upward owing to the prospect that there will not be a sufficient supply to last until the next crop comes in. It is intimated that efforts are being made to bear the market by dealers who are short of oil. Peppermint oil is somewhat unsettled. There is less demand for bulk oil, and case oil is almost entirely neglected. The news from the producing districts regarding crop prospects are almost identical with those received at this time last year, the outlook being considered very unpromising. London at present is bearish, which is understood to mean that her dealers are short of oil. Other oils remain in about the same position as when we last wrote.

Gums.

We find little that is new to report in this department. Dealers generally report a satisfactory jobbing business but an absence of large orders. Prices, as a whole, are well maintained. Camphor is in small supply and as the season of consumption is at hand manufacturers are very firm in their views. The present indications point to higher prices. Gamboge is firmer abroad but unchanged here. The stock of galbanum is limited and in the hands of one holder who demands $2 50 for natural and $1 50 for strained. Sandrac is firm at the recent advance, and cable advices received to-day indicate a strong and advancing market abroad. The mucilaginous gums are in good jobbing demand as full previous prices.

Roots.

German dandelion is firmer, most holders now quoting 10@11c. Colchicum root is extremely scarce and we hear of nothing under 16c. Doggrass root is wanted and commands 8½@9½c, the supply being limited. Arrivals of Jamaica ginger have been rather heavier the past week than at any time this season, but the goods remain in the hands of importers, as buyers are not willing to pay their prices. The market is without quotable change, but if arrivals continue on the present scale lower prices are expected to result. Jalap is easier and the article is neglected. Nominally, 22@23c is quoted, but less will buy from some holders, we understand. Goldenseal root is offered at lower prices from the country, and holders here are more disposed to meet buyers. The nominal quotations are 24@25c, but we hear it intimated that bids of 21c might not be refused for a large lot by some sellers. Sarsaparilla is firm. Honduras is not attracting much attention, but the inquiry for Mexican is said to be increasing, without, however, resulting in a larger business.

Seeds.

General trade is of a moderate jobbing character and prices show few changes. Celery seed is offered sparingly and is held at 15@17c, as to quantity and seller. Late mail advices from the other side say "A large speculator whose stock remains mains unsold, has run prices up to such a point as to encourage the growers to plant on a much larger scale than usual. Though adverse weather may affect the crop to some extent, the yield will undoubtedly be large. The stock remaining from the last crop being considerably larger than that carried over a year ago, and as the season is advancing the belief is encouraged that prices will go lower." Colchicum seed is now held at 30@35c, and is offered sparingly. Coriander seed is in good demand at 3½@3¾c for prime bleached English, as to quality. Canary seed is firmer, in sympathy with foreign advices.

Shellac.

The situation in the shellac market is without decided change. Prices generally are steady, about the only weak mark on the list appearing to be V. S. O., of which there is said to be a considerable stock in sight. The nominal quotation is 20@21c, but a large buyer could no doubt do better. There has been no particularly important business in any mark since our last, though we understand that a few lots of T. N., and intermediate grades have changed hands at about the market quotations. Cables from London to-day report that the deliveries for March were very heavy, amounting to 7,400 cases, and reducing the London stock by 1,900 cases. It is further stated that in view of recent developments the London deliveries for the first three months of the year are expected to exceed 10,000 cases.

Mr. Philip A. Bour, manager of the Pennsylvania Salt Manufacturing Company, is in the city visiting his friends in the trade.

Messrs. McKesson & Robbins have just received an invoice of camphor substitute, which is a combination of gum camphor and a coal tar preparation. It comes in cases of about 200 lbs. and sells at 28c per pound.

Messrs. Peek & Velsor have received a curiosity in the shape of a lot of cactus grandiflorus. It is a novelty because it is rarely sent to this market in a natural state.

Messrs. Dodge & Olcott have just opened a branch house in Boston, where they will carry a stock for the convenience of the local trade. It is not their intention to solicit retail trade, but they believe that by having the goods conveniently at hand they can secure a large patronage from jobbers. They now have such branches in most of the important cities of the United States.

DIGESTIVE FERMENTS

Contracts solicited for supplying Digestive Products in bulk to Manufacturers and Wholesale Dealers.

SAMPLES AND SPELIAL PRICES ON APPLICATION

Concentrated Solution of Pepsin

10 *Minims will Digest* 2000 *grains Albumen.*

THE NUTRIMENT COMPANY,

MANUFACTURERS OF THE NUTRIMENT COMPANY'S

FLUID BEEF, ESSENCE PEPPER, RENNENE, PURE PEPSINE, SOLUBLE SCALE PEPSIN, PURE PANCREATIN,

Works, UNION STOCK YARDS, CHICAGO, ILL.

The market for Mexican Vanilla Beans for the last month has been lower, and sales larger than before at this season for many years. Prime old beans are always preferred to new, and as the stock becomes reduced advancing prices may be expected. Some showy looking beans of damaged flavor are offered very low, but are not desirable for manufacture at any price. We offer a complete assortment of cut and whole beans including some lots of good and prime grades that are especially attractive to buyers who regard quality as well as price.

TYLER & FINCH, 54 Cedar St., New York.

NEW YORK SHELLAC CO.

229 PEARL STREET.

DIRECT IMPORTERS

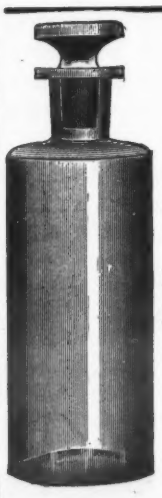
OIL OF MUSTARD

Artificial

To be equal in **Strength** to the genuine Mustardseed Oil, so that it may be used with perfect safety for the latter, must show a specific gravity of **1016 deg.** Messrs **Heine & Co.,** in Leipsig, manufacturers of this oil, guarantee on all their bottles this strength, and their label, therefore, is absolute guaranty that the contents have not been reduced or adulterated.

GEORGE LUEDERS

213 Pearl St., N. Y.



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MANUFACTURER OF

FLINT GLASS BOTTLES

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Special attention to private mould ware, mould department for this purpose and designs furnished when desired.

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Correspondence Solicited.

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ESSENTIAL OILS

Manufactured by

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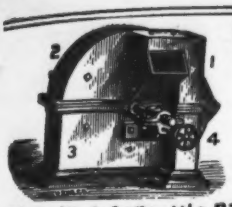
SPECIALTY IN

MEXICAN VANILLA BEAN

The Charles E. Hires Co, Philadelphia.



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Information Cheerfully Furnished.

HENRY SELLMAN,

56--58 Greenpoint Ave, Brooklyn, E. D.

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Mead's Patent Disintegrator for Drugs, Chemicals Sugar Soap. Sulphur, etc.

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EXTRA SATUREE POMADES, High class ESSENTIAL OILS.

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Silver Medal Paris Exhibition, 1889.

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LANOLINE LIEBREICH

(PATENTED.)

The New Base for Salves and Ointments, is of White Color and Perfectly Odorless; for Burns, Wounds and all Skin Diseases. Has valuable antiseptic properties. Anhydrous Lanoline, Toilet Lanoline in tubes, Lanoline Soap, Lanoline Cold Cream, and Lanoline Pomade.

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J. MOVIUS & SON, Successors to Lutz & Movius New York.

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CARBOLINE!

Is presented to the public, without fear of contradiction, AS THE BEST

RESTORATIVE & BEAUTIFIER

of the Hair science has ever produced. It performs what others only claim for their preparations. It is an elegant perfumed hair dressing, removes dandruff, cleans the scalp and makes the hair grow long and silky.

RESTORES THE HAIR ON BALD HEADS,

restores it to its original color, makes it grow rapidly, will not stain the skin, contains not a particle of lead, silver, sulphur or other deleterious drugs.

IT IS A NATURAL PRODUCT OF THE EARTH,

containing the elements required by the hair to feed upon. Does not require months to show its restorative qualities, but a few applications will convince the most skeptical of its perceive any result. It is cooling, cleanly and too much praise cannot be bestowed upon it. Ladies who are using Hair Dressings should give it a trial. Sold BY ALL DRUGGISTS, or sent Express paid to any address, on receipt of price.

Price $1.00 per large bottle.

W. J. Thompson, Sole Member Kennedy & Co., Pittsburgh, Pa., U.S.A.

See this Adv. in Druggists Circular.

Correspondence solicited for Domestic and Export Trade.

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Erfurt Chemical Works, Erfurt, Germany

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Perfect Balances and Weights,
Platinum Vessels and Salts,
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Raw Materials for Perfumers, Soapmakers, Etc

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First Class Quality and Reasonable Rates.

ALL GOODS SOLD ON THEIR MERITS.

The LBC brand can be found in every wholesale drug house.

OUR SPECIALTIES ARE:

Essential Oils,
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Vanilla Beans,
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Coumarine,
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Price Lists and additional Particulars will be sent to those interested.

PURE ALKALI.

Manufactured by the Ammonia Process

BY

TRADE B.M&C°. MARK.

BRUNNER, MOND & CO.,

LIMITED.

NORTHWICH, ENGLAND.

TRADE B.M&C°. MARK.

THIS ALKALI contains 58⁸⁰ deg. Alkametrical Test and is the most Economical form of Soda known for the manufacture of Glass, Soap, Paper, Wood Pulp, Starch or Colors. And for Cleaning Wool and Bleaching. In fact, for any purpose where Soda in its purest form is required.

Its strength is uniform, and quality always the same.

The following is the Chemical Analysis of this Alkali:

Carbonate of Soda,	98.72 per cent.
Sulphate of Soda,	0.20 "
Chloride of Sodium,	0.54 "
Carbonate of Lime,	0.13 "
Carbonate of Magnesia,	0.04 "
Peroxide of Iron,	0.01 "
Alumina,	0.01 "
Silica,	0.09 "
Moisture,	0.26 "
Total,	100.00

We are in constant receipt of BRUNNER, MOND & CO.'S manufacture at New York, Boston, Baltimore and New Orleans.

We have appointed as Exclusive Sales Agent for their district,

LINDER & MEYER, Boston, for New England States

We are prepared to make forward contracts for delivery monthly.

WING & EVANS,

54 WILLIAM STREET, NEW YORK.

SOLE AGENTS FOR THE UNITED STATES.

WHOLESALE PRICES CURRENT.

☞Our Quotations are those of Importers and Manufacturers, for original packages and large lots For broken lots higher prices are asked

Oils, Etc.

Vegetable Oils.

Linseed Domestic Raw, in bbls, ₩ gal	—	@57
Boiled, in bbls	—	@60
Calcutta, Raw, in bbls	—	@62
Out of town on spot	55	@—
Rapeseed, in bbls	66	@67½
Mustard	32	@38
Cottonseed, Crude Prime	32	@38
Crude, off quality	23	@28
Yellow Summer Prime	38	@40
Yellow Summer, off qual	31	@34
Yellow Summer, cooking	—	@—
White Summer	—	@—
Yellow Winter	38	@45
White Winter	39	@46
Soap stock	87	@85
Olive	5½	@ 6
Soap Stock ₩ lb	6½	@ 6¾
Palm, prime	5½	@ 6
Red oil	—	@ —
Cocoanut, Domestic	6¾	@ 7
Ceylon	8¾	@ 9
Cochin	—	@—
Cuban	—	@—
Castor, No. 2	12¼	@12¾
No. 3	85	@98
Poppy	—	@10
Rosin, first run ₩ gal	—	@12
Second run	—	@14½
Third run	—	@16½
Fourth run		

Animal and Fish Oils.

Whale, natural winter ₩ gal	54	@55
Natural spring	53	@54
Bleached spring	55	@56
Bleached winter	56	@57
extra bleached winter	58	@59
Sperm, natural winter	73	@75
Bleached winter	78	@80
Natural spring	—	@—
Bleached spring	—	@—
Sea elephant, bleached winter	—	@—
Unbleached winter	63	@64
Lard prime city	53	@55
prime, western	54	@—
Extra No. 1	44	@46
No. 1	35	@36
No. 2	—	@—
Menhaden, prime crude	30	@—
Good merchantable	28	@—
Brown strained	28	@—
Light strained	29	@30
Extra bl'ch'd winter white	34	@35
Bleached winter	31	@32
Bleached spring	31	@—
Bank	27	@28
Straits	28	@29
Herring	—	@—
Oleo	—	@—
Cod, Domestic, prime	43	@45
Black Fish, Crude	—	@—
Natural	—	@—
Bleached Winter	—	@—
Degras, English	3½	@ 3¾
French	6	@ 7¼
Tallow, Prime	45	@48
Neatsfoot, Prime	57	@67
No. 1, prime	48	@55
No. 1	40	@—
Elaine Red	34	@38
Saponified Red ₩ lb	5	@—

Mineral Oils.

Paraffine, High viscosity ₩	19	@22
23½@24 gravity	13½	@14
25 gravity	12½	@13
28 gravity	9½	@—
Red Paraffine	—	@—
23½@28 gravity	13	@14
Neutral filtered, lemon, 30@34 grav	22	@25
white, 33@34 gravity	33	@35
33@34 gravity, bloomless	12	@18
32 gravity, wool grade	11	@15
West Virginia, natural, 29 gravity	18	@29
Franklin, natural, 32 gravity	11	@15
Smith's Ferry, 33@34 gravity	8	@ 8½
Black reduced, 29 gravity, 25@30 c. t.	7½	@ 2
29 gravity, 15 cold test	8½	@ 9
29 gravity, zero	10	@11
Summer	6¼	@ 7
Cylinder, light filtered	15	@20
dark filtered	11	@15
extra cold test	18	@20
dark steam refined	10	@18

Oil Cake.

Calcutta cake, city ₩ ton	28 00	@30 00
City domestic	37 00	@—
Western, in bags	27 00	@—
Cottonseed cake at Memphis		@22 50
do do New Orleans	23 00	@—

Oil Meal.

State domestic meal ₩ ton	—	@27 00
Cottonseed meal at Memphis	—	@16 50
do do New Orleans	23 00	@—

Wax Candles, Lard, Tallow, Etc.

Paraffine wax, crude, 115@125 m p ₩ lb	7¼	@ 7¾
130@135 m. p	8	@ 9¼
refined 135 m. p	9½	@10
Candles, Paraffine, 1's and 6s	9½	@10
12s	9¼	@12
Adamantine, 6s, 16 oz	9	@10
14 oz	8	@ 9
12 oz	7	@ 8
12s, 16 oz	10	@11
14 oz	9	@10
12 oz	8	@ 9
Patent sperm, 4s and 6s	—	@42
Sperm, 4s and 6s	—	@40
Stearic acid	10	@11
Spermaceti	35	@38
Lard	6 85	@7 05
Stearine	—	@ 6¾
Tallow		@ 5

Naval Stores.

Sp. turpentine	41@41	I	2 50	@—
Strained rosin	—@1 70	K	2 65	@—
Good strained	—@1 70	M	2 95	@—
N	—@1 75	N	3 25	@—
F	—@1 85	W G	3 35	@—
G	—@2 10	W W	4 00	@—
H	—@2 45			

Paints, Varnishes, Etc.

White Lead, Zinc, Etc.

American Dry White Lead ₩ lb	6	@7¼
Pure White Lead, in oil	6½	@7¾
English White Lead, in oil	8½	@8¾
Zinc White, Paris, G S, 50 bbls	8¾	less 4 ₩ ct
G S, 25 bbls	8¾	2 ₩ ct
G S, 10 bbls	8¾	1 ₩ ct
R S, 50 bbls	8½	4 ₩ ct
R S, 25 bbls	8½	2 ₩ ct
R S, 10 bbls	8½	1 ₩ ct
Antwerp R S, 50 bbls	7½	4 ₩ ct
R S, 25 bbls	7½	2 ₩ ct
R S, 10 bbls	7½	1 ₩ ct
G S, 50 bbls	8¼	4 ₩ ct
G S, 25 bbls	8¼	2 ₩ ct
G S, 10 bbls	8¼	1 ₩ ct
G S in poppy oil	10¼	@11½
R S in poppy oil	10	@10¾
French in Varnish	14	@—
American White Dry	6½	@7
Off color	4	@ 4½
In oil	6¼	@6¾
In varnish	14	@18¾
L. Z. O. German zinc	7¼	@ —
China white	10¼	@12
Flake white	10¼	@12
Cremnits white	15	@20

Dry Colors.

REDS.

Carmine No. 40 ₩ lb	2 10	@3 00
Crocus martus, imported	1½	@ 2½
Standard American	1½	@ 2½
Colcothar	3½	@ 6
Indian red, American	3½	@ 6½
Standard American	2	@ 3
English	5½	@ 7
Tuscan red, English	9½	@ 11
Turkey red, English	9½	@ 14
Litharge, English flake	9	@ 9½
American powdered	6½	@ 7¼
Red lead, English	9½	@ 9
American	6½	@ 7¼
Orange mineral, English	9½	@ 10
French	10	@ 10¾
German	2½	@ 10
American	8	@ 8½
Rose pink, English	9	@ 9½
American	8	@ —
Vermilion, imported English	90	@ 95
Am. quicksilver, bulk	67	@ —
Am. quicksilver, bags	68	@ 71
Chinese	95	@1 00
Trieste	90	@ 95
American	11½	@ 12
Artificial	8	@ 35
Venetian red,	1 20	@1 30
English prime	1 20	@1 30
second quality	1 00	@1 10
American	1 00	@1 20

YELLOWS.

Chrome yellow	10	@ 25
Ocher, Rochelle	1 35	@1 50
Washed Dutch	5	@ —
Washed French	1½	@ 2½
Washed Nat Oxford, Lump	6½	@ 6¾
Washed Nat Oxford, Powd'r	7	@ 7¼
Golden	3½	@ 4
Domestic	½	@ 1¼
Domestic, for O C & W P	½	@ 1

GREENS.

Chrome, Chemically pure	22	@26
Extra	12	@13
Super	9	@11¼
Common	—	@ 8
Paris, Pure	—	@—
In pulp	11	@12
French Verdigris	40	@42

BLUES.

Chinese Blue	50	@55
Prussian Blue	25	@40
Soluble Blue	45	@55
Ultramarine Blue	7	@25
Celestial Blue	5½	@ 8
Blue verditer	25	@30
refiners'	60	@70

BROWNS.

Sienna Italian, burnt & powdered	5	@ 6¾
burnt lumps	1½	@ 3½
raw powdered	5	@ 6½
raw lumps	1½	@ 3½
American, burnt & powdered	1½	@ 1¾
raw	1½	@ 1¾
Umber, Turkey, burnt and powdered	3½	@ 4
burnt lumps	2½	@ 3
raw and powdered	3½	@ 4
raw lumps	2½	@ 2¾
American, burnt	1½	@ 1½
raw	1½	@ 1¾
Vandyke brown, German	6	@ 8
American	3	@ 3¾
Spanish brown	½	@ 1

Miscellaneous.

Barytes, prime white ₩ ton	18 00	@20 00
foreign floated	23 00	@24 00
domestic floated	31 00	@32 00
off color	11 00	@17 00
crude No. 1	8 50	@—
No. 2	7 75	@—
No. 3	7 50	@—
Chalk	2 00	@3 00
kiln dried ₩ 100 lbs	46	@ 55
air dried	33	@ 35
China clay ₩ ton	18 50	@21 00
Cobalt oxide	2 60	@ 2 90
Feldspar ₩ ton	14 00	@—
Silex	14 00	@25 00
Whiting, commercial ₩ 100 lbs	45	@ 50
gliders	55	@ 60
Extra gliders	60	@ 65
Paris white, English cliffstone	1 00	@1 15
American	70	@ 75
French talc	1½	@ 1½
terra alba	90	@1 00
American terra alba No. 1	—	@ —
No. 2	40	@ 50
English terra alba	50	@ 60
Blanc fix ₩ lb	2½	@ 3
Dentists' plaster ₩ bbl	2 00	@ 2 50
Calcined plaster ₩ bbl	1 30	@ 1 50
Marble dust ₩ bbl	1 15	@ 1 25
Pumice stone, original cks ₩ lb	1½	@ 2
selected lumps in bbls	4	@ —
powdered pure in bbls	2	@ 2½
Rotten stone original cks	4½	@ 5½
selected lumps	6	@ 10
powdered, in bbls	3½	@ 3½
Rubbing stone	—	@ 7
Bronze powder	—	@ —
Brocades	45	@1 00
Smalt, German blue	15	@ —
super black	—	@ —
Putty bulk	1½	@ 2½
bladders	2	@ 2½
tins	—	@ 3¼

Glues.

Extra white ₩ lb	17	@25
Medium white	13	@15
Cabinet	12	@14
Low grade	8	@10
Foot stock, white	9¼	@13¼
brown	4	@ 8
Irish	12½	@14½
French	9½	@22½
English	10¼	@15

Metallic Paints.

Brown ₩ ton	$21 00	@25 00
Red	21 00	@25 00

Colors in Oil.

Black coach, Japan ₩ lb	18½	@20
in oil	12	@13
Drop black	8½	@14½
Ivory black	8½	@14½
Lamp black	35	@40
Chinese blue	30	@40
Prussian blue	30	@45
Ultramarine blue	12	@16
Burnt sienna	7	@14
Raw sienna	7	@14
Burnt umber	7	@11
Raw umber	7	@11
Vandyke brown	7	@13½
Chrome green	3	@ 4
Paris green	18	@19½
English drop black	12	@14
American drop black	7½	@10
Frankfort drop black	7	@ 9
Lampblack, Wine	7	@ 9
Mallet	1	@ 2
2d quality	13	@19
low grade	6½	@10
Naphtha, black	60	@—
Fine calcined velvet black	16	@25
Medium calcined velvet black	12	@15

Varnish Gums.

Copal, Sierra Leone, cleaned	40	@55
Zanzibar, bold white	75	@85
medium white	70	@80
bean and pea	40	@45
Manila, pale	17	@20
bright amber	13	@15
standard	9	@10¾
Damar, Batavia	16	@18
Kauri, standard	19	@21
No. 2	12	@14
hard scraped	22	@24
light hard scraped	28	@30
picture quality	65	@70
pale and fine selected	42	@65
Sandrac	25	@30
Asphaltum, Cuban, prime	4½	@ 5½
sandy	4	@ 5
Egyptian	8	@ 9

Glass.

WINDOW GLASS.

AMERICAN AND FRENCH SINGLE.

Prices per Fifty Feet.

Sizes.	1st.	2d.	3d.	4th.
6x 6 to 10x15	$12 50	$10 75	$10 00	$ 9 50
11x14 to 16x24	14 50	12 75	12 00	11 00
18x22 to 20x30	19 00	16 50	15 00	14 25
15x36 to 24x30	20 50	17 50	15 50	....
26x28 to 24x36	22 00	19 50	17 00	....
26x36 to 26x44	23 50	20 50	17 50	....
26x46 to 30x50	26 00	23 00	19 50	....
30x52 to 30x54	27 00	24 00	20 50	....
30x56 to 34x56	29 00	25 50	22 00	....
34x58 to 34x60	30 00	27 00	25 00	....
36x60 to 40x60	34 00	31 00	27 00	....

AMERICAN AND FRENCH DOUBLE.

Prices per Fifty Feet.

Sizes.	1st.	2d.	3d.	4th.
6x to 10x15	$17 00	15 00	$14 00	$13 50
11x14 to 16x24	21 00	18 50	17 00	....
18x22 to 20x30	26 50	23 50	21 00	....
15x36 to 24x30	29 00	25 50	22 00	....
26x28 to 24x36	31 50	27 50	24 00	....
26x36 to 26x44	33 00	29 50	25 00	....
26x46 to 30x50	36 00	32 00	27 00	....
30x52 to 30x54	38 00	33 50	28 50	....
30x56 to 34x56	40 00	35 00	31 00	....
34x58 to 34x60	33 00	39 00	34 00	....
36x60 to 40x60	47 00	43 00	35 00	....

Discount on French S, & D, 75 & 5@75, 10 & 5%.
Discounts on American, 80 & 5@80, 10 & 5%

Drugs.

Opium.

Opium, (cases) ₩ lb	2 00	@2 60
as wanted	2 10	@2 65
powdered	3 15	@3 25
Morphine American	1 95	@2 05
foreign	1 35	@2 05

Quinine.

Quinine American ₩ oz.	25	@ 33
Italian	25	@ 32
German	24½	@ 33
Cinchonidia, American	4	@ 5
foreign	3½	@ 4
Quinidine	59	@ 60

Miscellaneous.

Acid benzoic, German ₩ lb	38	@ 45
English ₩ lb	9	@ 10
boracic purified ₩ lb	20	@
refined	14	@ 14¾
flaky	14	@
carbolic, pure crystals bot	23	@ 24
drums	20	@ 21
citric, domestic	47½	@ 50
foreign	47½	@ 50
salicylic, bulk & boxes	1 22	@ 1 27
Alcohol, 94 p ct, free per gal	2 26	@ 2 32
refi'd wood, 97 p ct	—	@ 1 15
95 p ct	—	@ 1 05
92 p ct	—	@ 1 00
Inodorous	1 52	@ 1 60
Cologne spirits, 188 p t	2 36	@ 2 38
Ambergris gray	42 50	@45 00
black	14 00	@20 00
Ammonia carb, foreign	8½	@ 10
Bay rum imp, bulk	2 25	@ 2 35
Barbadoes tar	40	@ 60
Borax, refined city, bbls ₩ lb	9½	@ 10
Cal., bbls	9½	@ 9¾
concentrated	—	@ 9¾
powdered	9½	@ 9¾
Bromine	37	@ 38
Burgundy pitch	2½	@ 3
Cantharides, Russian	1 05	@ 1 25
Chinese	35	@ 40
Calomel, domestic	81	@ —
English	1 20	@ 1 25
Castile soap, white	10½	@ 11
green, pure	6½	@ 9
mottled ordinary	4½	@ 4¾
pure	6	@ 6½
Chian turpentine ₩ oz.	45	@ —
Chloroform	50	@ —
Colocynth apples, Trieste ₩ lb	38	@ 45
pressed	32	@ 40
Spanish	25	@ 27
Cacao butter	30	@ 39
Chloral hydrate, crystals	1 15	@ 2 45
plates	1 05	@ 2 35
Corrosive sublimate	71	@ 81
Cuttlefish bone, Trieste	23	@ 25
Dragon's blood mass	18	@ 22
reed	35	@ 40
Epsom salts, per 100 lbs	95	@1 00
Ergot, Spanish	32	@ 37
German	28	@ 32
Gelatine English	50	@ 60
French	30	@
American	85	@ —
Glucose	2 90	@ 3¼
Grape sugar	3	@ 3¼
Glycerine, German, refined, dms	18	@ —
Amer'n, ref. bbls & cs	15½	@ 17
No. 1	15	@ 16
Glycerine, crude	8½	@ 10
Guarana, whole	2 50	@ —
Powdered	2 65	@ 2 70
Iceland moss	4½	@ 5½
Indian hemp (Canabis In)	15	@ 12
Insect powder	18	@ 24
Irish moss, American	4½	@ 9
" " imported, cleaned	11	& 15
Isinglass, Russian	3 85	@ 4 00
American ordinary	50	@ 60
prime	80	@1 25
Iodine, re-sublimed	3 30	@ 3 35
Licorice paste, domestic	6	@ 15
stick, domestic	17	@ 24
foreign	28	@ 29
Lupulin, American ₩ lb	1 25	@1 50
German	30	@ 40
Lycopodium, prime	37	@ 40
Manna, large flake	90	@1 00
small flake	40	@ 45
Sorts	10	@ —
Menthol	5 00	@5 50
Musk, true grain ₩ oz	11 00	@33 00
pods	5 50	@33 00
Canton grains	90	@1 00
Nitrate barium ₩ lb	7½	@ 8
Strontia ₩ lb	9½	@ 10
Nux vomica, pockets ₩ lb	2½	@ 3½
Oil, Almond, sweet	22	@ 25
Myrbane, American	15½	@ 18
English	16	@ 18
Olive, Virgin	1 85	@ 2 50
Sesame ₩ bbl	72	@ 78
Castor, city, bbls & cases	1 8½	@ 1 8½
Cod liver Norwegian ₩ bbl	26 00	@30 00
Newf'land ₩ gal	55	@ 60
Phosphorus ₩ lb	60	@ 65
Precip, red	91	@ 94
White	96	@1 00
Precipitated chalk, Eng. bk	6	@ 6½
bbls	7	@ 7½
Potassium, bromide, bulk	38	@ 33
glass	41	@ 44
Iodide, bulk	2 65	@ 2 70
glass	2 78	@ 2 78
Quicksilver	61	@ 63
Sago, pearl	3½	@ 4½
Flour	3½	@ 4
Sugar of milk cob	28	@ 30
Powdered	24	@ 33
Sulphur, roll	2½	@ —
Flour	2½	@ —
Salicine	1 50	@1 75
Strychnine	95	@1 05
Venice turpentine ₩ lb	18	@ 22
Wax, brown southern	29	@ 33
State	30	@ 33
White, purs	40	@ 45
Japan	10½	@ 10¾
Carnauba	15	@ 20
Ceresin	12½	@ 13½

Balsams.

Copaiba, Angostura ₩ lb	75	@ 80
Para	60	@ 65
Central American	50	@ 55
Fir, Canada ₩ gal	1 90	@2 10
Oregon	1 05	@1 10
Peru ₩ lb	1 50	@1 65
Tolu	25	@ 30

Barks.

Angostura ₩ lb	10	@ 12
Bayberry	8	@ 8
Buckthorn	5½	@ 6
Cascara Sagrada	6½	@ 8
Cascarilla	5½	@ 8
Canella	6	@ 8
Cinchona, red	25	@ 30
yellow	10	@ 15
Coto	60	@ 65
Elm, common	7	@ 10
selected	13	@ 14
Loxa	23	@ 26
Oak, white	3½	@ 4
red	3½	@ 4
Orange peel, West Indian	5½	@ 6
Malaga prime	5	@ 10
Curacoa	7	@ 8
Prickly ash	6	@ 7
Pomegranate (of root)	10	@ 25
Quebracho	12	@ —
Sassafras	8½	@ 9¼
Simaruba	9½	@ 10
Soap, whole	—	@ —
crushed	9	@ 10

Beans.

Vanilla, Mexican ₩ lb	4 00	@ 8 00
Bourbon	3 00	@ 6 00
Tonka, Angostura	1 75	@ 2 00
Surinams	1 25	@ 1 25
Para	1 00	@ 1 10
Calabar	22	@ 25
St. Ignatius	20	@ 21

Berries.

Cubeb ₩ lb	85	@ 1 25
Juniper	2½	@ 3
Fish (Cocculus Ind)	5	@ 8
Laurel	5	@ —
Prickly ash	1 00	@ —

Essential Oils.

Anise ₩ lb	1 47½	@ 1 55
Almond (bitter)	2 00	@ 7 25
Bay, ₩ bottle of 22 ozs	5 50	@ 6 26
Bergamot	3 00	@ 4 00
Cajeput	58	@ 75
Camphor	8½	@ 10
Caraway, seed	1 05	@ 1 40
chaff	40	@ 52
Cassia	1 00	@ 1 10
Citronella	30	@ 33
Clove, stem	80	@ 85
bud	85	@ 90
Copaiba	95	@1 00
Croton	90	@1 00
Cubebs	9 00	@ 9 50
Fennel	80	@ 85
seed	1 40	@1 50
Geranium, Turkish	3 00	@ 3 50
rose, French	8 00	@ 9 50
Gingergrass	2 00	@ 2 25
Juniper, once rect	1 00	@ —
twice rect	1 50	@ 2 00
wood	25	@ 40
Lavender, garden	40	@ 65
flowers	1 60	@ 1 75
Lemon	1 25	@ 2 60
Lemongrass	60	@ 65
Neroli bigarade	35 00	@45 00
Portugal	25 00	@27 50
Petale	45 00	@55 00
Nutmeg	2 50	@ 3 00
Orange, sweet	1 70	@ 2 10
bitter	3 50	@ 4 10
Origanum	18	@ 23
Peppermint, tin cans	2 50	@ 3 00
cases	3 15	@ 3 25
Pennyroyal	1 35	@1 50
Rose, ordinary ₩ oz	4 15	@ 4 25
special brands	4 30	@ 4 45
Rosemary, Trieste ₩ lb	55	@ —
French	80	@ 70
Flowers	80	@1 10
Sandalwood	2 10	@ 6 00
Sassafras	39	@ 41
Spearmint	1 80	@ 2 35
Tanzy	1 75	@ 1 80
Thyme, red	57½	@1 90
white	90	@1 00
Wintergreen	1 70	@1 80
Wormseed	1 75	@1 80
Wormwood	2 75	@3 75

Flowers.

Arnica ₩ lb	15½	@ 17
Chamomile, German new	16	@ 18
Roman	10	@ 15
Insect	16	@ 20
Lavender	2½	@ 5
Rosemary	15	@ 20
Saffron, American	20	@ 22
Alicante	6 60	@ 7 00
Valencia	11 00	@12 00

Gums.

Aloes Cape ₩ lb	8	@ 8
Barbadoes	14	@ 15
Curacoa	35	@ 40
Socotrine	45	@ 50
Arabic, 1st picked	1	@ 1

3d picked	40	@	45
4th picked	—	@	—
Sorts	25	@	35
Siftings	10	@	15
Senegal, picked	30	@	35
sorts	17	@	20
Asafœtida	8	@	12
Benzoin	34	@	45
Camphor, refined, bbls	45	@	—
in cases	46	@	—
Chicle	55	@	60
Euphorbium	24	@	25
Gamboge pipe and block	53	@	58
Gutta, siftings	18	@	20
sorts	—	@	—
Guaiac	18	@	50
Kino	10	@	12
Mastic	66	@	72
Myrrh	16	@	35
Olibanum, tears	12	@	14
sorts	8	@	9
Sandrac	27	@	30
Scammony, Alleppo	3 00	@3	35
Virgin	6 50	@7	00
Tragacanta Alleppo, 1st flake	50	@	53
2d flake	35	@	42
3d flake	28	@	32
4th flake	24	@	26
Turkey, 1st flake	70	@	75
2d flake	45	@	50
3d flake	35	@	40

Herbs and Leaves.

Aconite	10	@	11
Althea	8	@	10
Belladonna	12	@	15
Buchu, short	9	@	15
long	22	@	25
Coca	20	@	35
Damiana	10	@	12
Digitalis	8	@	10
Eucalyptus	4	@	5½
Grindelia robusta	12	@	14
Henbane (hyoscyamus)	10	@	12
Horehound	6	@	8
Jaborandi	14	@	18
Laurel	3½	@	4
Lobelia	4	@	7
Matico	16	@	18
Marjoram, German	12	@	18
French	10	@	15
Prince's pine	—	@	8
Rose, red	75	@1	10
pale	25	@	30
Rosemary	3	@	4
Sage, Italian	5	@	10
Senna, Alex. nat	18	@	22
siftings	10	@	12
garbled and sifted	27½	@	30
Tinnivelly	5	@	15
Thyme	4½	@	10
Uva Ursi	4	@	5
Yerba Santa	10	@	12

Roots.

Aconite	16	@	20
Alkanet	6½	@	8
Althea, whole	16	@	18
cut	20	@	24
Angelica, German	12	@	15
American	10	@	12
Arrowroot, Bermuda	27	@	30
St. Vincent, bbls & cns	6½	@	7½
Jamaica	10	@	11
Arnica	15	@	16
Belladonna	5	@	12
Blood	5½	@	6
Burdock	7½	@	8
Calamus, bleached	—	@	60
unble'd, split & peeled	9	@	8½
Canada snake, select		@	25
Colchicum	16	@	18
Colombo	5	@	10
Culvers	13½	@	15
Dandelion, German	10	@	11
American cut	12	@	14
Elecampane	4½	@	5
Galangal	7	@	9
Gentian	4	@	4½
Ginseng	3 00	@3	65
Ginger, Jamaica, unbleached	13	@	15
American, bleached	16	@	16½
Golden seal	23	@	25
Hellebore, white, powdered	7	@	9
whole	5	@	6
Ipecac, Rio	2 15	@2	25
Jalap	20	@	30
Kava Kava	14	@	16
Lady slipper	70	@	—
Lovage, American	40	@	50
German	19	@	20
Licorice, ordinary	5	@	7
selected, in bdls	10	@	20
Mandrake	4	@	5
Orris, Florentine	26	@	30
finger	42	@	75
Verona	13	@	16
Pareira brava	18	@	20
Pellitory	16	@	18
Pink	25	@	30
Rhatany	8	@	10
Rhubarb, whole	30	@	80
cut	45	@1	75
Sarsaparilla, Honduras	30	@	40
Mexican	—	@	10
American	—	@	—
Senega, Southern	—	@	—
Western	36	@	42
Serpentaria, Texas	27	@	30
Stillingia	8	@	10
Squills, ordinary	—	@	—
white, prime	5	@	6
Valerian, German	10	@	11
Belgian	7½	@	8
English	13	@	15
Vermont	14	@	16
Yellow dock	7	@	9

Seeds.

Anise, Italian	7	@	10
German	5½	@	6
star	27	@	29
Canary, Sicily	2½	@	2¾
smyrna	2	@	2½
Spanish	2½	@	3½
Caraway, Dutch	4½	@	4¾
German	—	@	—
Cardamom, Alleppy	60	@	80
Malabar	60	@	80
Mangalore	60	@1	50
Celery	15	@	17
Colchicum	30	@	35
Coriander, English	3½	@	4
French	3½	@	4
German	3½	@	4
Cummin	7½	@	8
Fennel, German	9½	@	13
Fœnugreek	2	@	2½
Guines grains	9½	@	10
Hemp, Russian	3	@	3½
Smyrna	—	@	—
Lobelia	18	@	20
Millet, domestic	1 10	@	—
foreign	2½	@	2¾
Mustard, California yellow	3½	@	3¾
brown	4½	@	5
Dutch	—	@	—
English	5	@	5½
Trieste brown	5	@	7
Poppy, white	6½	@	6½
Quince, German	25	@	30
Russian	22	@	25
Rape, domestic	3½	@	—
English	4	@	—
German	3	@	4

Shellac.

D. C.	23½	@	24
Octagon B. and similar grades	20	@	21
V. S. O	20	@	21
Diamond L.	15½	@	16
S.S. & similar grades	18	@	19
T. N. Superior	17	@	18
Ordinary	16	@	17
Garnet, A C	17½	@	19
Button	18	@	22
Stic lac	18	@	20
Bleached	25	@	26

Spices.

Cassia, Batavia	7½	@	8¾
China	4½	@	4½
Saigon, rolls	26	@	28
broken	22	@	24
chips	3½	@	4
buds	13¾	@	14½
Cloves, prime Zanzibar	8½	@	8¾
Amboyna	15	@	17
stems	3	@	3½
Ginger, African	5½	@	6
Calcutta	4¾	@	5
Cochin	6¾	@	10
Mace, Batavia	61	@	62
Banda	65	@	70
Penang	65	@	70
Nutmegs, 110's	6¾	@	84
Pepper, Singapore	9½	@	9¾
West Coast	8½	@	9
Acheen, prime	8¾	@	8¾
Penang, white	13	@	13½
Singapore, white	17	@	19
red, Zanzibar	21	@	22
Bombay	12	@	11
Pimento, prime	5½	@	6

Chemicals.

Heavy Chemicals.

Alkali, 48 ℔ cent., Solvay	1 60	@1	65
refined, high test	1 50	@1	55
Bleach, over 35 ℔ cent.	1 70	@1	75
Saltcake	70	@	80
Soda ash, carb, 48 per cent	1 55	@1	60
high test	1 50	@1	55
Caustic, 48 ℔ cent	1 55	@1	60
high test	—	@	—
Newcastle, 48 per cent.	1 60	@1	65
high test	1 55	@1	60
Soda bicarb, English	3 50	@3	75
American	3 50	@3	75
crystal carbonate	2 00	@2	25
caustic, 60 ℔ cent	3 35	@3	40
70 ℔ cent	3 05	@3	15
74 ℔ cent	3 05	@3	15
77 ℔ cent	3 10	@3	15
sal, English	1 00	@1	15
American	1 00	@1	05

Acids.

Acid, acetic	1 60	@1	75
chemically pure	16	@	17
pure	5½	@	8½
oxalic	7½	@	7½
sulphuric, 60 deg	75	@	80
66 deg	85	@1	00
muriatic, 16 deg	—	@	1¼
18 deg	—	@1	00
20 deg	1 10	@1	20
22 deg	1 20	@1	30
nitric, 36 deg	3½	@	4½
38 deg	3½	@	3¾
40 deg	4	@	4½
42 deg	4½	@	4½
tartaric, crystals	30	@	31
powdered	31	@	32

Ammonias, Potashes and Fertilizing Chemicals.

Ashes, pot, 1st sorts	—	@	—
pearl	—	@	—
Potash, chlorate, English	11	@	11½
powdered	11	@	11½
carb	5	@	6
caustic	6½	@	7¾
cyanide, fused	39	@	40
dbl m'riate salt 48@50%	1 10	@1	30
sulphate of, basis 90@96%	1 07½	@2	30
Kainit, 23% S. of P. ℔ ton	8 50	@9	00
Sylvinit, 27@35% S. F. P., ℔ unit	40	@	42½
Aqua ammonia (in obys) 16% ℔ ℔.	4	@	5
18%	4½	@	6
20%	6	@	7
22%	—	@	—
26%	9½	@	11
Ammonia, sal, rough	6	@	—
white	7½	@	8
lump	8½	@	9
sulphate	3 30	@3	50
Potash muriate, ℔ 100 ℔	1 77½	@1	95

AMMONIATES, ETC.:

Azotine, ℔ unit	1 85	@1	90
Blood, dried, red, ℔ unit, high	2 05	@2	10
low grade, ℔ unit	2 00	@2	05
Concentrated tankage, ℔ unit	1 75	@1	80
Bones, rough, ℔ ton	20 00	@23	00
ground, ℔ ton	25 00	@28	00
Bone Meal	22 50	@23	00
Bone black, refuse, ℔ ton	18 00	@19	00
Kieserite	—	@	—
Fish guano, dried	19 50	@22	00
acidulated	9 00	@10	00
wet	—	@	—
Phosphate rock, f. o. b. Char'n	—	@	—
undried	—	@5	00
dried	7 00	@7	50
ground	8 00	@11	50
Acid phosphate, 14% per cent	72½	@	75

Miscellaneous.

Acetate of lime, gray	1¾	@	2
brown	1 10	@	1 20
Alum, lump	1 65	@	1 70
ground	1 75	@	1 80
porous	2½	@	2¾
Argols, crude Oporto	—	@	—
plate	—	@	—
half refined	—	@	—
Arsenic, white	3	@	3¼
red	5	@	6½
Brimstone crude, best 2ds	35 00	@37	50
3ds	35 00	@35	50
Cream tartar, crystals, p. c.	24½	@	25
powdered, 99 p. c'.	24½	@	25
Glauber salts	60	@	70
Nitrate of lead	9	@	10
soda	2 25	@	2 50
Rochelle salts	33	@	35
Sugar lead, brown	5	@	6
white	12	@	12½
Saltpeter, crude	3½	@	4¾
refined	6	@	8
Vitriol, blue ordinary	4	@	4½
extra	4½	@	4¾

Dyestuffs.

Acid picric best crystals	52½	@	55
Albumen prime egg	35	@	40
imported blood	17½	@	20
domestic blood	16½	@	20
No. 1½ blood	—	@	—
Alizarine	18	@	21
Annatto	10	@	35
seed	4	@	6
Archil weed	7	@	15
Aurine	58	@	—
Barbary root, cut	4	@	—
Bichromate of potash, Scotch	9½	@	10
American	9½	@	10
Bichromate of soda	8½	@	11½
Carmine of indigo	60	@1	00
Cochineal, Teneriffe silver	27	@	29
black	27	@	29
gray black	33	@	35
Mexican	—	@	—
ammoniac	—	@	27
Cudbear, French	13	@	—
concentrated	25	@	—
Indigo, English	13	@	85
Cutch, slab	6½	@	7
bag	6	@	6¼
Dextrine	—	@	5¾
Divi divi ℔ ton	45 00	@	—
Fullers earth, lump ℔ ton	20 00	@25	00
powdered	28 00	@28	50
Flavine	27	@	28
Fustic stick ℔ ton	18 00	@36	00
Gambier ℔ ℔	5½	@	5¾
Garancine	8½	@	9
Indigo, Bengal, low grade	80	@1	00
medium	1 10	@1	20
high grade	1 20	@1	40
Caracas	—	@	—
Kurpahs	75	@1	05
Gautemalas	60	@	65
Manila	47½	@	55
Madras	35	@	55
Indigotine	2 50	@4	00
Lac dye	9	@	15
Logwood stick ℔ ton	24 00	@34	00
Madder, Dutch ℔ ℔	7	@	9
French	5	@	7
Myrobalans	2	@	2½
Muriate of tin	8	@	12
Nitrate of iron, commercial	1¾	@	2
true	4	@	5
Nutgalls, blue Aleppo	14	@	14½
Chinese	16½	@	18
Oxymuriate of antimony	4	@	6
Persian berries	16	@	18
Prussiate of potash, Am. yellow	24½	@	25
red	42	@	45
Scotch yel.	26	@	28
red	48	@	—
German yel.	24½	@	25
red	45	@	—
Prussiate of soda	22	@	24
Phosphate of soda	6	@	8
Sago flour	4	@	4¾
Salts of tartar	6½	@	7
Soluble oil	5½	@	7¼
Sumac, Sicily prime ℔ ton	77 00	@80	00
Virginia	48 00	@50	00
Starch, corn ℔ ℔	3	@	3¼
potato	4½	@	5
wheat	5½	@	5¾
Stannate of soda, 60% soluble	—	@	15
Stannate of soda, 40% soluble	—	@	12
25% soluble	—	@	9
20% soluble	—	@	8
Tin crystals	14	@	16
Turmeric root, Alleppy	5½	@	6
Bengal	—	@	—
Corringa	—	@	—
powdered	5½	@	6¼
Ultramarine, imported	20	@	30
American	5	@	16
Vanadiate, ammonium	90	@1	00
Woad, English	9	@	10

COAL TAR COLORS:

Alizarine	17½	@	21
Aniline oil	25	@	30
salt, crystals	21½	@	25
cake	30	@	—
Bismarck brown	55	@	75
Eosine	1 50	@3	00
Fast red	50	@	55
Fast yellow—acid	65	@1	50
Fuchsine crystals	1 00	@1	60
Hoffman's violet—3B	1	@1	25
Methylene blues	2 00	@2	10
Methyl violets—2R	1 50	@2	00
3B	1 00	@1	25
B	1 00	@1	25
Nicholson (alkali) blue—3B	2 10	@3	00
5B	3 75	@4	00
Red shade	2 00	@2	25
Nigrosine	1 00	@1	25
Orange A—II	30	@	40
Safranine	1 50	@2	75
Scarlet R	40	@	55
RR	50	@	65
RRR	40	@	75
Soluble blue—green shade	2 50	@3	50

These prices are for colors of standard purity in original packages. Reduced colors can be obtained at irregular and very much reduced figures.

CHIPPED DYEWOODS, ETC.:

Barwood ℔ ℔	1½	@	2¼
Camwood	4½	@	6
Fustic, com	1½	@	1½
Cuban	1½	@	1¾
Green ebony	3½	@	4
Hypernic	3½	@	4½
Logwood, Campeachy	1¾	@	1¾
Laguna	—	@	—
Nicwood	2	@	3
Peachwood	3½	@	3¾
Quercitron	1½	@	—
Redwood	2	@	3
Red sanders	—	@	3

EXTRACTS:

Archil ℔ ℔	12	@	18
concentrated	12	@	18
Barberry, French	26	@	30
Chestnut	3½	@	4
Chestnut oak	2½	@	—
Refi'd sedimentless hemlock	4½	@	—
Prime hemlock	3	@	4
Fustic, solid	10½	@	3¾
liquid, 51 deg	7	@	—
Indigo extract	7	@	12
Logwood, solid	7½	@	14
liquid, 51 deg	7½	@	8¼
42 deg	5	@	6
Persian berries, French	4	@	6
Sumac Extract	19	@	19¼

COMPARATIVE PRICES.

	1890.	1889.	1888.
CHEMICALS.			
Bleaching powder	2 00	1 60	1 85¼
Caustic soda, 70%	3 50	2 15	3 20
Caustic soda, 60%		2 35	3 40
Sal soda	2 00	75	95
Soda ash, 48% carb	2 50	1 23½	1 35
Soda ash, 48% caustic	2 50	1 18¾	1 20
Soda ash, 48-58% N. C	2 75	1 12½	1 12½
Soda alkali, 58% B. M	2 75	1 12½	1 12½
Soda nitrate	1 70	2 35	1 93¾
Brimstone	$19 50	$20 00	19 50
Cream tartar	24½	24	32
Muriate of potash	1 80	1 82½	1 77½
Chlorate of potash	13	13¾	13
Kainit	11 00	10 50	8 75
PAINTS.			
White lead in oil	7¾	7	6¼
Litharge	7¾	6½	6
Paris green	12½	—	16¾
Orange mineral	8	8	8½
Ven. red, English	1 40	1 40	1 40
Ven. red, American	1 00	1 00	1 00
Barytes	20 00	$16 00	$16 00
Whiting, Commercial	45	47½	45
DRUGS.			
Opium	$3 50	$2 83½	$3 20
Morphine, domestic	2 70	2 40	2 35
Quinine, German	27½	25	42
Quinine, domestic	31	36	40
Cinchonidia, domestic	4	4	5
Alcohol	1 98	1 98	2 12
Borax, city	10	9	8
Beans, tonka (Ang)	1 45	1 30	1 35
Cubebs	1 25	1 25	1 35
Cuttlefish	25	21	22
Glycerine, American	18	21	23¼
Oil, castor, city	14½	12½	14
Oil, codliver, Nor	19 00	20 00	24 00
Quicksilver	67½	68	60
Oil, bergamot	2 90	1 90	2 60
Oil, cassia	1 10	95	75¾
Oil, cubebs	13	14 00	13 00
Oil, peppermint, tins	1 80	2 10	1 85
Oil, sassafras	36	42½	47
Aloes, cape	5	5	6¾
Asafœtida	7½	8½	10
Gum arabic, 1st picked	92½	84½	83¾
Gum arabic, sorts	45	82	80
Camphor bbls	55	32	28
Shellac, D C	29	26	22
Senna, Alex. Nat'l	19	19	24
Senega So	55	53	48
Golden Seal root	27	32	34
Ipecac	1 95	1 90	1 90
Canary seed, Smyrna	2¾	2¾	3¾
Caraway seed, Dutch	4½	5½	7
Coriander, English	3	4½	4
Mustardseed, Cal. yel	3½	2¾	4½
Mustards'd, Trieste, br	5½	5½	7
Rapeseed, English	—	4	4
Rapeseed, German	3¾	3½	3¾
OILS.			
Linseed, domestic	62	58	88
Cottonseed, prime S. Y	34	50	38
Olive, Sicily	92½		99
Cocoanut, Ceylon	5½	5 45½	4¾
Lard, prime city	52	59	63
Menhaden, prime cdo	25	32	29
Whale, bleached win'r	48	47	43
Sperm, bleached win'r	80	81	73
Paraffine, 25 gravity	11½	10¾	10¾
Black, 29 gr. 15°	9	8½	9
Oil cake, western	30 50	23 00	35 00
Spirits turpentine	43	46	39½
DYESTUFFS.			
Cochineal, Teneriff S.	27	30	33¾
Cutch	6¾	5½	7½
Gambier	6¼	5¾	6¾
Indigo, Bengal h grade	1 25	1 25	1 25
Bichromate potash	10½	11½	10½
Prussiate potash, yel	18½	17½	19
Sumac, Sicily prime	62 00	66 00	68 00
Starch, W'r	2½	2¾	2¾

BEESWAX.

W. H. B. PURE REFINED.

In 2 lb. cakes, in cases of about 130 lbs.
In ¼ & ½ lb. " " 110 "
In oz. cakes in 2 lb. parcels in cases of 54 lbs.

W. H. B. PURE WHITE.

In round cakes in 2 lb. parcels } In cases
In oblong cakes loose " " } of 54 and
In oz. cakes in 2 lb. parcels 56 lbs.
Plain blocks of 7½ lbs. in cases of 250 lbs.

The purity of these goods is credited to by the following eminent chemists: S. P. SHARPLESS, State Assayer, Boston; J. W. TAYLOR, Associate of the Society of Public Analysis of England, Montreal, P. Q.; EDWARD DAVIES, F. C. S., and F.I.C. and C. Royal Institution, Liverpool, England; BERNARD DYER, D. Sc., F. C. S., F. I. C., Member of the Society of Public Analysis, 17 Great Tower Street, London, E. C., England, Wm. T. WENZEL, Analyst and Assayer, San Francisco, Cal.

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AUSTRALIAN RED WEED.

THE GREAT TONIC BLOOD REMEDY.

No Drug Store Complete without it.

For particulars, &c., address:

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GUM SHELLAC

ALL GRADES.

HOWE & FRENCH, BOSTON.

CHEMICAL MARKET.

Note—*Our prices are for large lots except when otherwise specified, and buyers of small quantities must expect to pay an advance on these figures.*

The prices current will be found on page 41 & 42.

TUESDAY EVENING, April 7, 1891.

The general dulness which has been the characteristic feature of all the other markets, is having its effect upon trade in chemicals of all grades, while there has been a fair demand for alkali for shipment over the year, the bulk of the orders have not in the aggrigate been of large proportions. The arrivals have been quite free but as the bulk is under contract for consumption very little surplus finds its way on the market for resale. Caustic soda is a shade firmer owing to the placeing of the large stocks which have come to hand of late. Sal soda is in full stock and rather hard to sell at the moment. There have been arrivals of nitrate of soda from Liverpool since our last report, the market, however, as yet has shown no weakness in consequence. Brimstone for future delivery is a shade lower. The other light chemicals are all steady as noted below. In speaking of the Liverpool market under date of March 25, Messrs. Jos. P. Brunner Co., say. "There is an entire absence of speculative business in heavy chemicals, owing to the present dead level of prices, and consumers are only buying from hand to mouth. Soda ash remains quiet, and minimum quotations are as follows: Caustic ash, 48%, £5 2s 6d per ton; 58%, £6 4s per ton, net cash. Carb ash, 48%, £5 7s 6d per ton; 58% £6 10s per ton, net cash. Soda crystals are moving off at £3 7s 6d@3 10s per ton, less 2½%. Caustic soda; A fair business passing, and sellers are still offering for prompt delivery at 2s 6d@3s per ton under parity of union prices. The "union's" quotations for prompt delivery is as follows: 60%, £9 15s; 70%, £11; 74%, £12; 76%, £12 12s 6d per ton and upwards, all net cash. A reduction of 5% per ton for contracts over 6 months, or to the end of the year, also for special large lines for prompt delivery. Bleaching powder is receiving little attention, but hardwood is still held for £7 per ton, net cash. Chlorate of potash is in light demand at 5½d per pound, less 5%, nominal, but second hand lots could probably be had at a shade less. Bicarb soda is in demand, and selling at £6 17s 6d@7 per ton less 2½% for one cwt kegs, according to brand and quantity, with usual allowances for larger packages."

Heavy Chemicals.

Carbonated soda ash, 48%, of the various Liverpool makes, has been very dull during the past week. The arrivals, though not excessive, have been ample to meet all requirements. For future shipment a few sales have been made, about 300 tons, at 1 55@1 57½c, as to brand, quantity and date of shipment; also 125 tons on the spot at 1 57½@1 62½c, as to quantity, make and holder. High test is in the same position, with the exception that since the opening of the week there have been several orders in the market for future delivery at prices ranging from 1 52½@1 55c, as to brand, quantity and date of delivery. Only few sales are reported for immediate delivery at 1 56¼@1 60c, as to quantity and holder.

Caustic soda ash, 48%, continues in light stock available for prompt delivery. The demand, however, is very light. Now and then an order comes along for a few casks, for which full prices have to be paid. We get sales of 10 tons on the spot in lots at 1 60c, and 25 tons to arrive at 1 50c@1 55c, as to brand and quantity.

Alkali—48% of the various makes is in ample stock at the moment to meet all requirements. The demand for spot goods has been light, while for future shipments considerable has been done specially for B M 48%, the sales aggregating several hundred tons for delivery over the year at prices ranging from 1 57½@1 60c, as to make, quantity and date of delivery. The arrivals of high test B M continues to come freely to hand, the bulk of which, however, is under contract for consumption, hence little surplus stocks comes on the market. For delivery over the year there has been considerable inquiry during the past few days resulting in the placing of several large contracts at about 1 50c; also 100 tons spot at 1 50@1 55c as to quantity and holder. The other high test alkalies have been fairly active both for spot and for future delivery at prices ranging from 1 45@1 50c, as to brand, quantity, holder and date of delivery.

Caustic soda, 60%, for forward shipment, is a shade firmer, the range now demanded being from 3 35@3 40c, as to quantity, make and holder. The sales comprise 150 dms for April shipment at 3 35c, and 175 dms for late April and May at 3⅝@3 40c, as to quantity and brand. The recent large arrivals of 70-74% having about all been sold or gone into store, the market has assumed rather a stronger tone, and at the close nothing better than 3 05@3 07½c was named for spot goods, and 3 10@3½c for shipments, as to quantity and holder. The sales since our last foot up 1,200 dms from dock at 3@3 02½c, and 400 dms in lots at 3 02½@3 05c, as to quantity and holder. There have been several inquiries in the market for contracts extending over the year, but at such low figures that sellers have declined them. The stock of 77% in first hands is about nil, for lots on way, and for shipment there has been a fair demand, with sales of 400 dms reported at 3 10c.

Salt cake of foreign makes is very scarce on the spot for prompt delivery, arising from the fact that importers are not disposed to carry any surplus stocks, they only bringing out such lots as may be required for delivery upon contract. The sales comprise 50 tons to arrive at 75@80c, as to make, quantity and place of delivery. Domestic makers are all sold ahead for some months to come, consequently they are only nominally quoting 70@75c, as to make, quantity and date of delivery.

Sal Soda—There is no change in the position of this article. The demand being light, holders are obliged to name low prices or store their goods. This some decline to do; consequently there is considerable competition for the orders. The nominal quotation ranges from 1@1 02½c, as to make, quantity and holder, for goods from dock, with sales of 125 tons reported within the range. Domestic makers all report a good trade, which is fast reducing their stocks for the present. They are quoting 1@1 05c f o b less 1½% for cash, as to quantity and style of package.

Bleach is about the dullest article on the list, and yet no surplus stocks are being pressed on the market. The demand being light, holders are firm in their views for prime high test and are declining to shade 1 70@1 75c, as to quantity, make and holder. Several offers of 1 65@1 67½c have been declined during the past few days for several round lots, both here and on way.

Acids.

Acetic acid has been very dull during the past week; only such orders as current needs require are coming forward. Values, however, continue steady at 1 60@1 70c, as to make, quantity and holder.

Muriatic and nitric acids are both meeting with an improved jobbing demand, not only for immediate delivery, but for forward as well. Values are gradually advancing to a higher level all around.

Oxalic acid is in ample stock to meet present needs of consumers. The demand has been unusually light during the week. The sales comprise 25 cks at 7¼@7¾c, as to make, quantity and holder.

Sulphuric Acid—Since the opening of the month there has been an improved demand not only for spot but for future delivery. Values are steady with an advance usually demand for small orders. A meeting of all the manufacturers is soon to be held, as nearly all have already signified their willingness to attend and compare notes. Chamber acid though not quoted any higher is in good request with several sales reported for future delivery at prices ranging from $9 00@12 per ton f. o. b. factory as to make, quantity and place of delivery.

Tartaric acid is jobbing in a small way at 31@32c for both crystal and powdered, as to quantity and holder.

Miscellaneous.

Acetate of Lime—There has been a fairly active demand for export as well as for home consumption in progress since our last report. Several car lots have been taken at full prices. We quote brown at 1½@1¾c, and grey at 1¾@2c, as to quantity and place of delivery.

Arsenic is only wanted in a limited way, consequently prices remain steady at 3@3½c, as to brand, quantity and holder. For shipment a round lot could be had at less figures.

Alum—There has been an improved demand since the month opened specially for prompt delivery. The sales comprise 600 bbls lump at

The Nichols Chemical Company
Manufacturing Chemists.
68 WILLIAM ST., NEW YORK.
Oil Vitriol, Sulphuric Acid, 98 pr ct.
Muriatic Acid, Bi-Sulphate of Soda,
Blue Vitriol. Sulphate of Soda,
Alum, Acetic Acid,etc.,etc.
Special Quotations given on Application

JAS. L. MORGAN & CO.,
MANUFACTURING CHEMISTS,
47 FULTON ST., NEW YORK.
Oil Vitriol, Muriatic Acid,
Nitric Acid, Sulphate Soda,
Aqua Fortis, Extract Indigo,
Aqua Ammonia, Chemicals,
Mixed Acid for Nitro-Glycerine, etc.

HUDSON RIVER CHEMICAL WORKS,
Shady Side, N. J.

JOS. C. GAMBLE & SON.
ST. HELENS, Lancashire.
MANUFACTURERS OF
CHLORATE OF POTASH,
CHLORATE OF BARYTA
CHLORATE OF SODA,
SULPHIDE OF SODIUM,
SODA ASH, CREAM CAUSTIC SODA,
BLEACHING POWDER.
CROWN FILLER.

PHENIX CHEMICAL WORKS,
Oil Vitriol, Muriatic Acid,
ACETIC ACID,
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Oil of Vitriol, Nitric Acid. Aqua Fortis.
ACIDS
Muriatic Acid. Aqua Ammonia, etc.
Mixed Acids for Nitro-Glycerine a Specialty.
WORKS AT BRIDGEPORT & NEW HAVEN CONN.

Atlantic Sulphur Works,
MANUFACTURERS OF
VIRGIN ROCK AND ROLL BRIMSTONE.
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Mining, Commercial and Chemically Pure.
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ATLANTIC CHEMICAL WORKS.
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Martin Kalbfleisch's Sons Co.,
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MANUFACTURERS OF
Oil Vitriol, Nitric, Muriatic and Acetic Acids, Aqua Fortis, Aqua Ammonia, Muriate of Tin, Sulphate of Zinc, Alum Tin Crystals, Blue Vitriol, Glauber's Salt, &c.
Mixed Acids for Nitro-Glycerine Makers.

BAUXITE
(Hydrate of Alumina-Alum Clay.)
LUMP AND GROUND.
IRISH HILL BRAND. Highest in Alumina, and Lowest in Iron produced. Best article wherefrom to Manufacture Alum, Sulphate of Alumina, Alum Cake, &c.
Mines and Mills Near Belfast and Larne.
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SOLE AGENT. PROPRIETORS.
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HIGH TEST CAUSTIC SODA,
HIGH TEST BLEACHING POWDER.

NEW ENGLAND AGENTS: { BRUNNER, MOND & CO.'S 48% and 58% PURE ALKALI
SOLVAY PROCESS CO. 36%, 48% and 58% PURE ALKALI.

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Manufacturer of Chemicals,

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Potash Salts, Fertilizer Materials, Aqua and Anhydrous Ammonia.

COCHRANE CHEMICAL COMPANY

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OIL VITRIOL, MURIATIC ACID, NITRIC ACID,
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EXTRACT INDIGO, GLAUBER'S SALT, ACETIC ACID.

MIXED ACIDS FOR NITRO-GLYCERINE.

Works at Everett, Malden and East Cambridge.

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Muriate of Potash

Manufacturers at Stassfurt, Germany.

Attention of Manufacturers and Dealers is called to this article, which is steadily growing in favor, as being the cheapest, best and most available source of Potash in existence. Any grade desired can be furnished, analyzing from 80 to 98 per cent. of Muriate with a guarantee not to contain over one-half per cent. of Chloride of Magnesia.

All orders entrusted to us receive prompt attention and are executed at hortest notice for shipment to any seaport desired and for present or future delivery at New York. Orders and correspondence solicited. Samples mailed and information given upon application.

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Soda Ash, Sal Soda, Venetian Red
Chance's Bicarb Soda,
Pattinson's Carbonate and Calcined Magnesia.
Carbonate in 3 oz., 4 oz. small square & powdered. Calcined ¼ & 1 lb. bottles and 1 lb. tins

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Turkey and Indian Reds, Purple Browns, Colcothar, Metallic Oxides
Bright Red and Scarlet Oxides.

DOUBLE REFINED GRANULATED SALTPETRE
NIAGARA LABORATORY
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OFFICE 163 FRONT ST. NEW YORK

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THE NIAGARA LABORATORY

MANUFACTURERS OF

Refined Saltpetre,

Crystals, Granulated and Powdered.

LARKIN & SCHEFFER.

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CHEMICALS,

TECHNICAL, PHARMACEUTICAL AND SCIENTIFIC

OUR GOODS ARE MADE IN STRICT CONFORMITY TO THE U. S. PHARMACOPŒIA.

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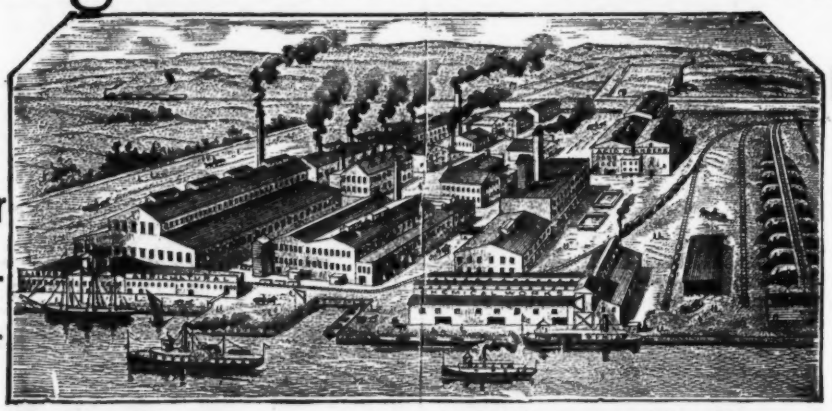
Bone Black for Oil Refineries a Specialty—also for Sugar Refineries. Glue, Grease. &c. &c.



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NEWCASTLE CHEMICAL WORKS CO., LIMITED

Newcastle on Tyne, England.

SOLE MANUFACTURERS OF

CHEMICALLY PURE CAUSTIC SODA, TESTING 77% ALKALI

Equal to 99.35 Hydrate of Soda. Packed in drums of 650 pounds each.

THIS IS THE PUREST CAUSTIC SODA MANUFACTURED.

—Also Makers of—

BLEACHING POWDER, high strength, and SAL SODA.

WING & EVANS, NEW YORK.

54 WILLIAM STREET. AGENTS FOR UNITED STATES

1 65@1 75c and 300 bbls ground at 1 75@1 80c, as to make, quantity and place of delivery.

Blue vitrol is rather firmer especially for outside makes, stocks of which have been very much reduced. The sales comprise 300 bbls at 4⅛@4¼c, as to quantity and holder. The other makers are still quoting 4¼@4⅜c, as to quantity, with only a limited quantity being offered.

Cream tartar is meeting with the usual consumptive demand, no change in values having taken place since our last; buyers are still able to procure their stocks at 24½@25c for either crystals or powdered.

Brimstone—Several lots have come to hand during the week, all of which, however, was placed previously for consumption. For shipments prices are a shade easier, best seconds being quoted for April and May at $33 50@34, as to quantity and date of shipment, with sales of 1,200 tons reported. For nearby cargoes they are asking $37@38, as to quantity and holder.

Nitrate of Soda—About 5,000 bags have arrived from Liverpool during the past week. The bulk of this, however, will go into store unless it brings 2 22½@2 25c as to quantity. There has only been a moderate trade owing to nearly all of the large consumers being well stocked for the moment. The sales comprise 800 bags at prices ranging from 2 22½@2 27½c as to quantity and holder. For shipments on way they are asking 2 25@2 30c as to position of goods. We are indebted to Messrs. Mortimer & Wisner for the following circular:

	1891. Bags.	1890. Bags.	1889. Bags.
Imported into Atlantic ports from West Coast, S. A., from Jan. 1, 1891, to date	121,474	236,365	80,173
Ditto from Europe	2,415	.....	.....
	123,889	236,365	80,173
Visible supply to Aug. 1, 1891	212,895	.....	.....
Additional charters	229,500	486,900	316,700
Total supply, when shipped	442,395	566,357	373,874
Stock on hand Jan. 1, 1891	36,454	22,009	87,043
Deliveries past month	47,918	72,535	11,857
Deliveries since Jan. 1 to date	126,948	178,837	110,042
Total yearly deliveries	.....	673,679	546,589
Prices current, April 1, 1891	...	2¼c	1 70@1 72½	2¼c

"The uncertainty of future supplies continues, and communication with nitrate ports is again cut off. The market closes firm."

Saltpetre is only wanted in jobbing way at the moment, either on the spot or to arrive. Values remain steady at 3⅝@3¾c for lots on way and 4¼@4⅛ for spot, as to quantity and holder. Messrs. H. H. Crocker & Co. in their monthly circular say:

Saltpetre.	Bags. 1891.	1890.	1889.
Imported into the United States from Jan. 1st. date.	Bgs.* 16,410	Bgs.* 13,602	Bgs.* 11,559
On the way for the United States, by mail, to Feb. 18.	15,545	14,724	13,820
On the way for the U. S. by cable, to March 31	11,530	6,118	2,700
Stock in importers and speculators hands in Boston, March 31	None	None	None
Stock in importers and speculators hands in New York March 31	16,500	8,000	8,250
Supply for 4 months	43,575	28,842	24,770
Stock on hand Jan. 1	11,000	5,500	7,750
Deleveries since Jan. 1 st. N. Y., and Boston	10,910	11,102	11,059
Deliveries past 30 days	1,324	3,648	5,250
" for consumption for years		62,263	52,073
Prices current, March 31, per Pound	3⅝@4¼c	4⅝@5¼c	4⅛@5⅛c

*Spot and to arrive.

Market during the month has been very quiet, with only a spot jobbing business doing. No business in shipments.

Ammonias, Potashes and Fertilizing Chemicals.

Only a moderate trade is reported for the various grades of the fertilizing chemicals since our last report. The scarcity of stock for prompt delivery has a tendency to restrict trade to a more or less extent. Sulphate of ammonia made from gas liquor is in demand with several sales reported at 3 25@3 30c as to quantity and date of delivery. Bone sulphate of ammonia is also in request at 3 20@3 25c as to make, qantity and holder. Bone meal is selling freely at $22 50@23, as to quantity and date of delivery. Dried blood of high grades are scarce and are now held firm 2 05@2 10 and low has been advanced to 1 95@2 as to quantity and place of delivery. Sulphate of potash continues in light stock, there being almost none obtainable in first hands. There are, however, several lots on way by steamers, which upon arrival will relieve the market. For shipments there have been several sales at prices ranging from 2 07½@2 12½ as to quantity and date of shipment. Double manure salt is in the same position as regards stocks on the spot. For lots on way and for forward delivery there have been several sales at 1 12@1 15c as to quantity and date of shipment.

Muriate of Potash—While there have been several large arrivals to hand during the week no relief is afforded the market for the reason that these goods all went into the hands of consumers, conseqtently the market continues bare of stocks in first hands. There has been only a light inquiry for future shipments, the sales only aggregating 350 tons at prices within the range named by the syndicate's agents.

Chlorate of Potash—There is no change in the general condition of the market; the demand being light buyers' wants are satisfied at 11@11¼c as to make, quantity and holder.

Kainit—Considerable business has been done at the reduction in prices, as noted in our last, the sales aggregating 3,000 tons for shipment, at $8 50@9 per ton, as to quantity and date of shipment.

Philadelphia Chemical Market.

PHILADELPHIA, April 6, 1891.

There has been nothing of interest in the English chemical market during the past week. The dullness which has been previously noted continues and from present indications is likely to do so for some time to come. Prices are ruling at about previous quotations the stocks being as a rule light and holders firm notwithstanding the absence of orders. The arrivals have been heavier than usual and mostly placed on contracts from dock so that few goods are pressing on the market.

Carbondated soda ash, Liverpool, 48%, is quiet and orders received for immediate delivery have been confined to small jobbing parcels which are quoted at 1 65@1 75c. To arrive 1 62½@1 70c will buy and these figures are also asked for shipments but might possibly be shaded for round lot on firm offer. 58% still continues in light stock and no changes in freights or demand to note.

B. M., 48%, is moving along slowly and has arrived in fair sized parcels which, however, have gone into immediate consumption on contracts. Spot goods are held at 1 65@1 75c, and shipments at 1 62½@1 70c. To arrive there is nothing offering. B. M., 58%, on spot is held at 1 60@1 70c; to arrive 1 55@1 60c is named, and a fair jobbing trade noted. Shipments are held at 1 50@1 55c. Caustic soda ash, 48%, for small lots on spot can be had at 1 65@1 70c; to arrive 1 62½@1 70c are ruling figures, and shipments can be had at 1 60@1 65c as to brand and quantity.

Caustic soda, 60%, while doing fairly well, shows not as much activity as would be expected. Spot goods can be had at 3 45@3 50c. To arrive, 3 35@3 45c will buy, and shipments are held at 3 30@3 37½c. Seventy per cent on spot is quoted at 3 25@3 30c, and to arrive and for shipments, 3 15@3 25c is named. In the higher tests there is nothing new reported.

Bleaching powders have seen a slightly bet-

Established 1836.
CROTON LABORATORY
OFFICE, 26 CEDAR ST., N. Y.
J. B. Hendrickson
IMPORTER AND REFINER OF
Crude Saltpetre and Nitrate of Soda
Best qualities always on hand at lowest cash price.

Everything
USED BY THE SOAP MAKER.
—o—
Welch, Holme & Clark,
COMMISSION MERCHANTS
AND DEALERS IN
Soda Ash, Caustic Soda, Sal Soda, Silicate Soda, Potash, Pearl Ash, Palm Oil, Cocoanut Oil, Rosin, Turpentine, Grease, Tallow, Cottonseed Oils' Pure Ess'l. Oils.
Corner West & Barrow Streets
NEW YORK.

ANALYTICAL LABORATORY
—OF—
DR. GIDEON E MOORE,
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Analysis of Oils, Paints, Drugs, Chemicals, Fertilizers, Waters and natural and industrial products of every description. Assays of Ores, Minerals, Metals, etc.
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Miller and Importer of
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158 SOUTH ST., N. Y.
China Pipe, Slip, Plastic Ball and other Clays.
Boracic Acid, Grain Quartz, Manganese, Fluor Spar, Feldspar, Flint, Silex, Pumice Stone, Rotten Stone, Bone Ash, Emery, Terra Alba, Powd. Marble, Ground Glass, Ground Slate, White Sand, Talc, &c.
CLINKER COMPOUND,
For removing clinker from furnaces, &c.

DR. H. ENDEMANN,
Established 1864.
ANALYTICAL and CONSULTING
CHEMIST,
Chemical Engineer and Expert in Cases before the Courts.
25 & 27 William St., New York.

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Laboratory, 110 Front St.,
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Analyses of all Natural and Industrial products. Experimental tests of New Inventions.

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ter demand, and spot goods are firm at 1 80@1 90c. Shipments are held at 1 80@1 85c, and possibly might be shaded.

Sal soda has arrived freely, but mostly placed previously, so that figures on spot goods are still 1 15@1 20c. Shipments are held at 1 12½@1 17½c.

Liverpool Chemical Trade Gossip.

LIVERPOOL, March 28, 1891.

Chemicals have lately supplied a fruitful field for gossip, and more particularly with regard to the concerns of the United Alkali Company. The directors have just issued their new selling arrangements, possibly with a view to pleasing everybody, but they have practically illustrated the old fable of the man, the boy, and the donkey, and have been treated to the jeers of the trade generally. Hard lines, too, that beyond this, they are in danger of losing the few friends they possessed outside the charmed circle of manufacturers who have been fortunate to shoulder upon the patient British public a large number of works, which, though not actually obsolete, should not be considered of the utmost commercial value, if judged by the quantity of plant now lying idle, or subsequently to be discarded.

The programme of the proposed Phosphate Alkali and Chlorine Company suggests large things in the way of dividend, claiming, by the manufacture of carbonated soda ash in conjunction with the concentration of phosphatic minerals, to produce the former at a cost of a few shillings per ton. Does this verge on the realms of romance?

Several patents have been registered for recovering the whole of the chlorine from the common salt, instead of one-third as at present, but so far we do not hear that practical results have been fully equal to theoretical prospects. No doubt the united alkali company with its great resources of talent and capital will possess itself of a process second to none.

Should an occasional resume of what is doing here prove of interest to any of you readers, you will likely hear again from

CHEMICUS.

Recent Patents.

449,437. TANNER'S OIL. Filed May 27 1890, Issued March 31, 1891.

Claim—The tanner's oil herein described and shown, consisting of stearine, tallow, raw linseed-oil, and oil of citronella in the proportions stated.

Potash and its Derivatives in France.

There has been a serious reduction in the production of potash in France during 1890, the chief cause of this being the scarcity of raw material—beetroot salts.

About 24 million kilos. of salts have been refined during the year, and in addition to this the surplus stock of crude potash from the preceding year has been converted into the refined article. In spite of this, several potash refiners have been compelled to stop work, either completely or partially. This lack of raw material is the result of the payment of a bonus to the manufacturer, who is thereby induced to exhaust the molasses to the utmost extent.

The amounts produced have been, about:

6,000,000 kilos. refined potash, 75 to 80 and 80 to 85 per cent.

1,500,000 kilos. extra refined potash, 88 to 90 per cent.

1,000,000 kilos. hydrated potashes.

4,000,000 kilos. common salt.

4,500,000 kilos. potassium chloride.

3,000,000 kilos. potassium sulphate.

The potash salts have been chiefly employed for agricultural purposes. The chloride in particular, which is still converted into sulphate by some works in the Nord, is entirely devoted to this purpose, and at a price which would not pay manufacturing industries.

Sulphate of potassium is still partially worked up, but its high price will eventually shut it out, like the chloride, from use in this direction.

The production of potash from suint, which is the source of a regular annual supply, has been much less in 1890 than in the preceding years. Not more than four million kilos. of suint potash have been produced in the various French wool-washing establishments, and the deficit of each works may be estimated at nearly a quarter of its total production. It appears that similar conditions will probably exist throughout 1891.

The potash thus produced has been mainly employed in the manufacture of caustic potash, and the remainder sent directly to the soap boilers. The manufacture of caustic potash, of which France appears to enjoy almost a monopoly, and which has been greatly restricted of late years, has developed considerably during 1890. The old works have been fully employed and new ones established, all of which have been able to find a market for their products. More than 2,000,000 kilos. of caustic potash of different qualities have been manufactured and, for the most part, exported.—*L'Engrais.*

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(ABSOLUTELY PURE.)

The nature of the raw material from which NATRONA BI-CARBONATE OF SODA is made—viz.: Kryolith, a mineral containing pure sodium—insures a purity and uniformity of product which cannot be obtained from any other known material. In making Bi-Carb. Soda from any other raw material, the use of sulphuric acid is a necessity, but none is used in any part of the process of making NATRONA BI-CARB; hence its entire freedom from the slightest trace of arsenic, which is always present in ordinary soda. Its absolute purity and entire freedom from all traces of sulphate of soda, common salt, and other impurities, render NATRONA BI-CARB NEARLY TASTELESS, and, being bolted through the finest bolting-cloth, insures the finest state of division.

To these indisputable facts the attention of CONSUMERS of soda is specially called. They are IMPORTANT, and should influence both those who use and those who sell soda, to buy and sell NONE BUT THE BEST.

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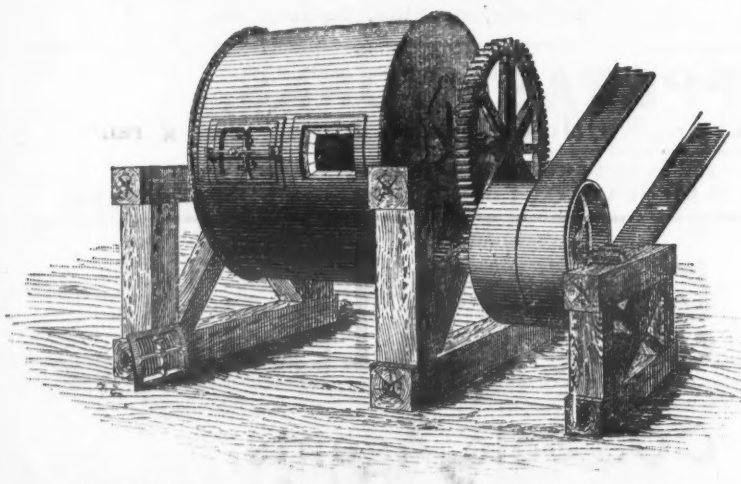
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FRANKLIN, PA

DYE MARKET

Note—*Our prices are for large lots except when otherwise specified, and buyers of small quantities must expect to pay an advance on these figures.*

The prices current will be found on page 42.

TUESDAY EVENING, April 7, 1891.

The only special feature among the dealers in dyes, dyewoods, &c., is, if it might be so-called, the activity necessitated by moving their goods from their old quarters to larger and more commodious warehouses. This shows that there has been a good business in the past and that a good trade is expected in the future, but just at the present time business is reported as worse than dull in most lines. However, as the exception proves the rule, there has been a little more inquiry in some lines since our last report.

Aniline colors rule unchanged since our last. There is only a small jobbing trade apparent, buyers merely supplying their immediate wants until the season fairly opens.

Alizarine continues to move in small quantities only, and is without special feature. Prices remain steady and we quote it as before, at 18@21c, as to quantity.

Albumen is held steady at previous quotations, and there seems to be more activity and a large demand at current prices, with a scarcity of the domestic blood.

Bichromate of potash is quoted at 9½@10c for both Scotch and American. There seems to be a little better inquiry in this line, though as yet it has not resulted in any increased business. Bichromate of soda is also in somewhat better demand so far as inquiry is concerned, we quote it at 8½c.

Cutch has ruled very quiet since our last, and seems to be somewhat neglected at the moment, although a better demand and somewhat higher prices are looked for in the near future. We quote 6@9½c for S. M. on spot and to arrive.

Gambier has been in somewhat better demand, and we learn of sales aggregating about 800 bales ex-store mostly in small quantities at 5½@5¾c. The visible supply makes the outlook good for this country, but as there have been heavy shipments to Great Britain, and some of this will probably be shipped here, it acts as a menace to keep prices down.

The following figures, for which we are indebted to Messrs. Frank R. Leonori & Co., show the statistical position of gambier April 1st:

	Bales.
In store, New York	8,200
In store, Boston	2,400
In store, Philadelphia	600
	11,200
AFLOAT FOR NEW YORK.	
Governor Goodwin, now about due	3,800
Steamer from Singapore, due about April 10, 1891, say	1,100
Steamer from Singapore, due about May 20, 1891, say	850
Antioch, due ab't May 20, 1891, say.	3,400
Heinrich, due about July 18, 1891, say	3,900
	13,059
	24,259
Salvator del Orso, loading at Singapore for New York.	
Tonio, loading at Singapore for New York.	
AFLOAT FOR BOSTON.	
Sachem, due ab't May 16, 1891, say..	2,550
Wm. Hales, due about July 2, 1891, say	2,600
	5,150
Iceberg, loading at Singapore for Boston.	
Visible supply for next four months	29,409
Total deliveries for consumption during last four months	32,431
Total deliveries for consumption since Jan. 1, 1891	25,732
Imported from England since Jan. 1, 1891	8,850

Divi Divi is without comment and to use the expression of some in the trade "deader than a door nail". We do not learn of any changing hands. It is quoted nominally at $40@45 a ton, a wide range and probably the lower figures are nearer correct.

Sumac continues in fair demand. We learn of sales of 250 bags Sicily some at $77 and a portion slightly under this figure. It is quoted at $77@80. Virginia is rather more quiet at the moment, we quote it at $50@53.

Indigo shows some activity, and we learn of some small sales at current prices. We quote it as follows: Bengal low grade 80@$1 00 high grade $1 20@1 40, these prices probably might be shaded somewhat.

Nutgalls are still scarce and the supply limited, the market has been relieved a little, however, by the arrival of about 126 cases the past week. We quote blue Allepo 14@14½c and Chinese 16½@18c.

Dexterine is very firmly held and in large demand, we are quoted at the moment 5¾c, but this price will probably soon be advanced.

Dyewoods—There is nothing of special interest in this line, business is said to be very dull in both stick and chipped dyewoods.

Coal Tar or Aniline Dyes.

(Continued from page 11.)

citron yellow, which undergoes no change on the addition of alkalies or acids, or, at most, the tone of the color is only deepened.

2. Curcuma.—The solution is golden yellow, and undergoes no changes in the addition of acids. Alkalies and boracic acid changes it to a brown-red

3. Dimethylamidoazobenzol.—The solution is golden yellow, which is changed to hydrochloric acid. The hydrochloric acid solution, with amyl nitrite, changes the color, and when boiled, nitrogen is evolved.

4. Amidoazobenzol.—Behaves as No. 3. Amyl nitrate changes its color with only a slight evolution of nitrogen.

5. The dye is freely soluble in water, and concenterated sulphuric dissolves it without strong coloration.

ACID DYES.

a. Caustic soda produces no precipitate.

b. If caustic soda produces a precipitate in the aqueous solution.

1. Picric Acid.—Greenish yellow solution possessing a very bitter taste. Alkalies change it to dark yellow, whilst acids produce no change.

2. Martins Yellow.—Solution, golden yellow. Acids produce a whitish precipitate.

3. Acid Naphthol Yellow.—Solution, golden yellow. Not precipitated by acids. The addition of chloride of potassium yields fine needles.

4. Fluorescene and Benzyl Fluorescene.—Solution, brown yellow with beautiful green fluorescence, which diminishes with the formation of a precipitate on the addition of acid.

5. Chinoline Yellow.—Solution, golden yellow, in which acids produce no precipitate. Decolorized by metallic zinc in presence of ammonia, and also by stannous chloride in presence of hydrochloric acid.

BASIC DYES.

1. Phosphine.—The addition of alkalies produces a yellow flocculent precipitate soluble in ether, yielding a pure yellow solution possessing a powerful green fluorescence.

2. Flavaniline.—Alkalies yield a milk white precipitate, which is dissolved by ether, forming a colorless solution with greenish blue fluorescence.

3. Auramin.—Alkalies produce a milk white precipitate, which is dissolved by ether without fluorescence. The yellow solution, when boiled with hydrochloric acid, appears at first brighter, but finally fades.

C. The dye is soluble in water. Solution in sulphuric acid is very strongly colored.

AZO DYES.

a. Caustic soda produces a precipitate in the aqueous solution.

1. Chrysoidine.—Wool is dyed yellow. The aqueous solution coagulates to a blood red colored mass, soluble in sulphuric acid forming a brownish yellow solution.

2. Vesuvin (Bismarck Brown) Phenylene Brown.—Wool is dyed orange brown. The aqueous solution does not solidify on cooling. Solution in sulphuric acid, brown.

b. Caustic soda produces no precipitate.

1. Echt Yellow.—Solution in sulphuric acid is yellow. After dilution with water, salmon red. Aqueous solution, yellow.

2. Methyl Orange and Ethyl Orange.—Solution in sulphuric acid yellow, when diluted carmine red. Aqueous solution yellow, which, in cooling, yields gold glistening plates. Dilute acids give a shining red-violet precipitate.

3. Tropaeoline O. O.—Solution in sulphuric acid violet, on diluting red violet, and giving steel grey precipitate. Solution in water yellow, crystallizing on cooling. Chlorides of calcium and barium give insoluble precipitates.

4. Jaune N.—The sulphuric acid solution is blue green, changing to violet on diluting with steel grey precipitate. Aqueous solution yellow, which crystallizes on cooling. Chloride of barium gives a yellow precipitate, soluble in a large volume of water, and from which the precipitate crystallizes out again in the form of plates.

5. Luteoline.—Solution in sulphuric acid is yellow green, after dilution it changes to violet, with formation of a grey precipitate. Aqueous solution is yellow, which crystallizes in cooling. Chloride of calcium gives an orange red precipitate, which changes to red on boiling, and crystallizes.

6. Citronin (Jaune indien).—The sulphuric acid solution is carmine red, changing to yellow on dilution. The aqueous solution is yellow, and often turbid. Alcoholic caustic soda lye changes the color from deep red to violet.

7. Orange G.—Solution in sulphuric acid, deep orange, which does not essentially change on dilution. The aqueous solution is orange, and by the addition of chloride of calcium, very beautiful plate like crystals of the calcium salt separate out.

8. Tropaeoline O.—The sulphuric acid solution is brown orange—not changing essentially in color when diluted. Aqueous solution yellow, from which beautiful yellow crystalline plates may be obtained on the addition of a little hydrochloric acid. A large excess of acid separates the free dye in grey needles.

9. Orange II.—Solution in sulphuric acid, carmine red, turning to orange on dilution. The aqueous solution is reddish orange. Chloride of calcium gives a beautiful red precipitate, which is soluble in a large volume of

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water, and crystallizes from it in needles.

10. Tropaeolin O. O. O.—Solution in sulphuric acid, violet, changing to orange on dilution. The aqueous solution is reddish orange, caustic soda changes it to carmine red.

GREEN DYES.

1. Cerulein.—Sparingly soluble in water with olive brown color. The addition of alkalies renders the dye more soluble, producing a grass green solution. Concentrated sulphuric acid dissolves it, yielding a dirty brown solution.

2. Victoria Green and Brilliant Green.—Easily soluble in water, yields a beautiful green solution. Alkalies throw down rose or grey precipitates; strong acids color it yellow.

In order to distinguish both of these colors from one another a small piece of wool is dyed in a bath and the shades compared.

3. Iodine and Methyl Green.—Easily soluble in water—blue green solution. Acids change it to yellow, whilst alkalies decolorize it without precipitation. When the solid dye is heated above 100° C., it appears violet.

4. Blue Dyes.—Easily soluble in water, forming a slightly greenish solution. Acids intensify this color, and when added in larger quantity, change it to yellow. Alkalies decolorize it completely. Silk and sulphurized wool are dyed in the acid bath—methyl green in a neutral bath—and dyed samples may be heated to 150° C., for a short time, without altering their shade. Sulpho acids of benzaldehyde greens, especially light green S, Emerald green, Helvetia green.

1. Rosaniline and Diphenylamine Blue.—Soluble in alcohol but quite insoluble in water. Hydrochloric acid does not essentially change the color, frequently small green crystals separate. Caustic soda solution changes it to a brown red color. Concentrated sulphuric acid dissolves it, forming a bright reddish brown solution.

2. Indophenol.—Insoluble in water, but soluble in alcohol. The alcoholic solutions are colored red on the addition of hydrochloric acid, whilst alkalies produce no change.

3. Methylene Blue—Easily soluble in water. The blue solution is rendered greenish by hydrochloric acid and violet-red by soda. Zinc powder reduces and decolorizes the solution, but the color returns again on exposing the solution to the atmosphere. Zinc may be detected in the ash (obtained by incinerating some of the original dye) in the following way. The zinc exists as chloride. The ash is dissolved in water, filtered if necessary and ammonia added to precipitate the zinc as hydrate, $Zn H_2O_2$; a white precipitate, soluble in excess of ammonia. The clear solution thus obtained yields with sulphuretted hydrogen or sulphide of ammonium, a white precipitate of sulphide of zinc (ZnS) which is insoluble in acids.

4. Victoria Blue.—Easily soluble in water. The blue color is changed to yellow-brown by acids. Whilst alkalies yield a reddish-brown precipitate.

5. Alkali Blue R—6 B.—Easily soluble in water, the solution being nearly decolorized by alkalies. Wood absorbs the color from the alkaline solution, and after washing with water and dipping in a weak acid bath, is changed to deep blue.

6. Water Blue R—6 B.—Easily soluble in water. Wool is dyed in the acid solution. Alkalies do not change the color of the aqueous solutions. Sticks of zinc decolorize the solution.

7. Indigo Carmine—Easily soluble in water, but the color is developed only after the addition of acid. Zinc in presence of ammonia decolorizes the aqueous solution, but the color is reproduced on exposure to the air. Dilute nitric acid axidizes and permanently decolorizes the coloring matter, especially on boiling.

8. Induline R—6 B.—Insoluble in water, but soluble in alcohol. Alkalies change the alcoholish solution brownish red to violet. Solution in concentrated sulphuric acid is blue.

9. Induline Soluble in Water.—Soluble in water. Acids throw down the blue; alkalies color it red or violet. Zinc in presence of ammonia decolorizes the aqueous solution, the color reappearing on exposing the solution to the atmosphere. Dilute nitric acid does not decolorize the aqueous solution, even on heating.

10. Lenk Indophenol.—Grey paste, which produces immediately a blue coloration when mixed with soda lye, and exposed to the air.

11. Orthonitrophenylpropiolic Acid.—Grey paste, soluble in soda lye without the formation of a blue color. When boiled with grape sugar indigo-blue crystals separate out.

VIOLET DYES.

1. Regina Purple.—Soluble with difficulty in water; easily soluble in alcohol. Solution in sulphuric acid cinnamon-brown.

2. Methyl Violet R—6 B. Hoffmann's Violet.—Easily soluble in water, alkalies alter the color. Hydrochloric acid first colors it green, then yellow.

3. Mauvein.—Not very easily soluble in water. Alkalies produce a violet separation. Solution in concentrated sulphuric acid is grey, and when this solution is gradually diluted, it undergoes the following changes: Grey green, sky blue, blue violet and red violet.

4. Lauth's Violet.—Soluble in water, acids change the color to pure blue, alkalies to red violet. Metallic zinc in presence of acids or ammonia, completely decolorizes the solution, the original color of which reappears on exposing to the air. Concentrated sulphuric acid dissolves the dye, yielding an emerald green solution, which changes to sky blue on diluting it with water.

5. Gallo Cyanin.—Only soluble in boiling water. Hydrochloric acid colors the solution a pure carmine red. Solution in concentrated sulphuric acid, blue—on diluting with water changed to red.

6. Amethyst, Fuchsia, Girofle.—Soluble in water with red violet solution; the addition of alcohol produces a carmine red fluorescence. Concentrated sulphuric acid dissolves it, yielding an emerald green solution, which, on dilution, changes to blue or violet.

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HOW TO SECURE

THE BEST LIGHT.

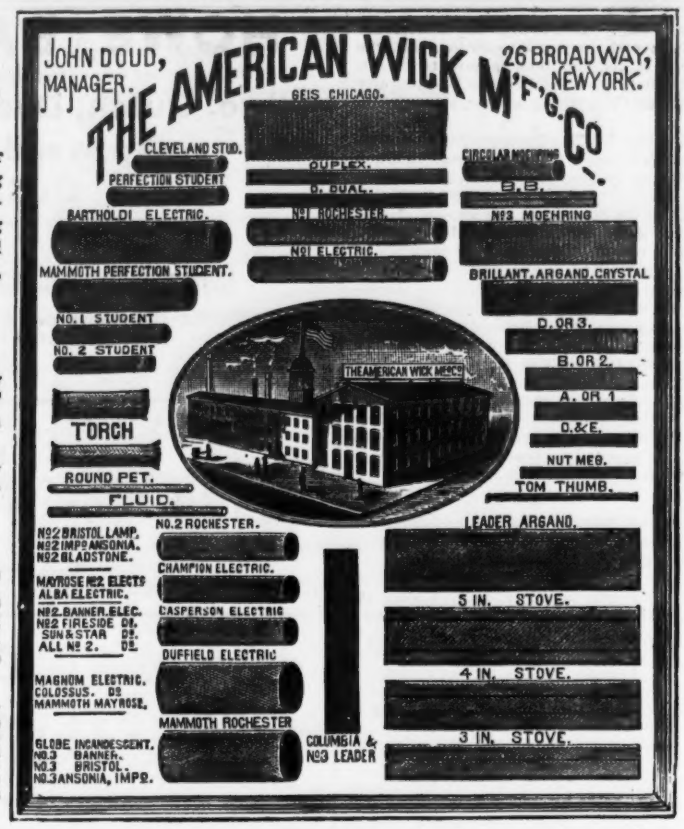
If your lamp seems to be giving a poorer light than it once did, before complaining about the quality of the oil you are burning, please **EXAMINE** the following points, as we are quite sure you will find the trouble to be caused by one or more, perhaps by **ALL** of them:

I. THE LAMP.

1. Can your lamp be **DIRTY?**
   Has it been **EMPTIED** recently? Every lamp should be emptied completely **EVERY WEEK** and the oil in the bottom thrown away.
   See that your lamp be kept free from water and dirt.
2. Is your lamp **FILLED** frequently?
   Lamps should be filled **EVERY DAY** so that you begin the work of the evening with a full fount.

THE BURNER.

1. Is the burner **CLEAN?**
   The life of the flame is the air it sucks in through the holes in the **DISK** around the wick-tube. If the flame is smoky or smells bad, see whether these holes are not clogged or gummed up. If so, then boil the entire burner for a few moments in sal-soda water, and mark the change.
2. Is the **WICK-TUBE** large enough?
   The wicks now made are more loosely woven and are thicker than they have been in the past. See that the tube does not so bind the wick as to check the oil in mounting to the flame. The tube should be **LARGE ENOUGH** to allow the wick to be moved up and down freely.



III. THE WICK.

1. Is the wick **WORN OUT?**
   We don't mean burned out, but worn out. The wick is the pump to lift the oil from the fount to the flame. It may become clogged. Boil the wick for a half hour everp two weeks. Put in a new wick at least **ONCE A MONTH.** Wicks are now so cheap that the expense will be trifling. Dry a new wick thoroughly before putting into lamp.
2. Does the wick need to be **TRIMMED?**
   If so, don't scrape it off, as some do; it injures the wick and fills the burner with dirt. Cut it evenly across the top. Trim the wick **EVERY DAY.** You will be more than repaid in the light you will get.

FINALLY--

Are you using the **BEST WICK?**
The best, of course, is **"THE AMERICAN."** A good wick is soft and silky, loosely woven and thick. The best now costs no more than the poorest. A poor wick starves the flame by holding back the oil from it, and throttles the oil in its effort to reach the flame. Be sure that with the best oil, best lamp, and best burner, you will still be far from having the best light unless you have also the **BEST WICK.** Try **THE AMERICAN,** and you will never after complain of the oil.

CHEMICALLY TREATED.

The American Wick is chemically treated, extracting all the impurities from the cotton, thus giving them **GREATER** capillary power, and enabling them to emit **SUPERIOR LIGHT.**

'A Word to the WISE is sufficient.'

We make wicks for every style of burner in the market. For samples prices and all information, address

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Wide awake Jobbers and retailers realize that there are certain commodities that become standards in consequence of their increasing popularity year after year. Not because they are forced upon the trade, but on account of their intrinsic worth. It is the keen tradesman that caters to this established demand instead of taking advantage of the consumer by palming off on him some cheap imitation. The former course is a practical protection of commercial relations, while the latter destroys confidence and injures trade. Practical experience of nearly a quarter of a century has taught the shrewd consumer that there is no better leather preservative known to the trade than ***VACUUM HARNESS OIL.*** The peculiar process and care in manufacture, secures a uniformly good article. It penetrates the leather, making it soft and pliable. giving double wear to Harness, Carriage Top, Shoes. etc. Some people, however, will count the first cost and for this trade is the ***FAVORITE HARNESS OIL*** of the same grade, only a little less in quality at "way down" prices. The only satisfactory cheap oil. Another essential to every well regulated stable; almost as indispensable as hay; is the ***VACUUM HOOF OIL;*** a peculiarly penetrating and searching salve. Horsemen know it is the great remedy for Sores, Wounds, Galls, Sprains, Quarter Crack. These goods are offered to the trade at discounts that pay for handling, and on liberal credit. Send for prices and other information to

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